

05/25/2017 GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY Douglas Casa, Ph.D.

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

25th day of May, 2017 At 9:33 a.m.

Nathan Hale Inn
University of Connecticut
855 Bolton Road
Storrs, Connecticut 06268

BRANDON HUSEBY REPORTING & VIDEO, LLC
249 Pearl Street
Hartford, CT 06103
(860) 549-1850

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p>Page 2</p> <p>1 A P P E A R A N C E S:</p> <p>2</p> <p>3 REPRESENTING THE PLAINTIFF:</p> <p>4 BRENT COON & ASSOCIATES, PC</p> <p>5 3801 East Florida Avenue</p> <p>6 Suite 905</p> <p>7 Denver, Colorado 80210</p> <p>8 PHONE: 303-756-3243</p> <p>9 EMAIL: jim.cox@bcoonlaw.com</p> <p>10 BY: JAMES L. COX, JR, ESQ.</p> <p>11 (Appearing by telephone)</p> <p>12</p> <p>13 REPRESENTING THE DEFENDANT:</p> <p>14 LAMSON, DUGAN AND MURRAY, LLP</p> <p>15 10306 Regency Parkway Drive</p> <p>16 Omaha, Nebraska 68114</p> <p>17 PHONE: 402-397-7824</p> <p>18 EMAIL: dschmitt@ldmlaw.com</p> <p>19 BY: DAVID J. SCHMITT, ESQ.</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>Page 4</p> <p>1 THE REPORTER: Attorney Cox, would you like</p> <p>2 to purchase a copy of the transcript?</p> <p>3 MR. COX: Yes, e-tran and condensed.</p> <p>4 ---</p> <p>5 DOUGLAS CASA, Ph.D., having been first duly</p> <p>6 sworn by Victoria L. Germani, RPR, LSR, and</p> <p>7 Notary Public within and for the State of</p> <p>8 Connecticut, was examined and testified as</p> <p>9 follows:</p> <p>10 ---</p> <p>11 EXAMINATION BY MR. SCHMITT:</p> <p>12 Q. State your name for the record.</p> <p>13 A. Douglas James Casa, C-a-s-a.</p> <p>14 Q. And your occupation?</p> <p>15 A. I'm a professor at the University of Connecticut.</p> <p>16 Q. All right. Dr. Casa, I represent Union Pacific</p> <p>17 Railroad in a lawsuit filed by Guillermo Herrera, III,</p> <p>18 relating to a heat-related incident that he had on</p> <p>19 July 26th of 2015.</p> <p>20 You have been designated by Mr. Herrera's</p> <p>21 attorney, Jim Cox, as an expert witness to testify on</p> <p>22 his behalf. I'm, therefore, here today to take your</p> <p>23 deposition to find out about all opinions and bases for</p> <p>24 your opinions that you intend to render at trial. Okay?</p> <p>25 A. Yes.</p>
<p>Page 3</p> <p>1 INDEX</p> <p>2</p> <p>3 WITNESS: DOUGLAS CASA, PH.D. PAGE</p> <p>4 EXAMINATION BY MR. SCHMITT 4</p> <p>5 EXAMINATION BY MR. COX 143</p> <p>6 FURTHER EXAMINATION BY MR. SCHMITT 147</p> <p>7</p> <p>8 ---</p> <p>9 EXHIBITS MARKED FOR I.D. PAGE</p> <p>10 Defendant's Exhibit 161, Curriculum Vitae 13</p> <p>11 Defendant's Exhibit 162, Amended Notice To Take 43</p> <p>12 Deposition</p> <p>13 Defendant's Exhibit 163, August 11, 2016, Expert 33</p> <p>14 Report</p> <p>15 Defendant's Exhibit 164, Prior Experience as an 21</p> <p>16 Expert</p> <p>17 Defendant's Exhibit 165, August 26, 2016, Invoice 32</p> <p>18 Defendant's Exhibit 166, Chronology of Events 37</p> <p>19 Defendant's Exhibit 167, November 3, 2016, Cover 39</p> <p>20 Letter</p> <p>21 Defendant's Exhibit 168, Letter dated December 19, 40</p> <p>22 2016 from Mr. Cox</p> <p>23 Plaintiff's 169, Dr. Casa's November 30, 2013, 144</p> <p>24 report</p> <p>25 (The original exhibits were retained by the reporter and returned with the original transcript.)</p>	<p>Page 5</p> <p>1 Q. If at any time I ask a question that you don't</p> <p>2 understand or it's unclear, please ask me to repeat it</p> <p>3 or rephrase it; and I'll be happy to do so. All right?</p> <p>4 A. Yes.</p> <p>5 Q. Dr. Casa, let me ask you just a little bit about</p> <p>6 your background.</p> <p>7 So if you are a professor, where are you a</p> <p>8 professor at? Where are we at today?</p> <p>9 A. University of Connecticut.</p> <p>10 Q. All right. And tell me what do you do as a</p> <p>11 professor here at the University of Connecticut?</p> <p>12 A. So I'm involved with undergraduate and graduate</p> <p>13 education.</p> <p>14 And since we're the Department of Kinesiology, we</p> <p>15 work with people who are in majors of exercise science,</p> <p>16 athletic training, and similar majors like that.</p> <p>17 I also -- I'm the CEO of the Corey Stringer</p> <p>18 Institute. That's K-o-r-e-y Stringer Institute. That</p> <p>19 is a not-for-profit we run out of the University of</p> <p>20 Connecticut that's focused on maximizing health and</p> <p>21 safety for athletes, war fighters, and laborers.</p> <p>22 And so a lot of my research and education and</p> <p>23 advocacy is through the Corey Stringer Institute.</p> <p>24 Q. As a professor at the University of Connecticut,</p> <p>25 tell me what degrees you hold.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

Page 6	Page 8
<p>1 A. So I have my bachelor's degree from Allegheny 2 College in Pennsylvania. 3 I have my master's degree from University of 4 Florida. 5 And I have my Ph.D. from University of 6 Connecticut. 7 Q. So as a Ph.D., you are a doctor of philosophy? 8 A. Yes. 9 Q. All right. And not a medical doctor? 10 A. That is correct. 11 Q. As part of your work, do you see and treat 12 patients here at the University of Connecticut? 13 A. I don't treat patients at the University of 14 Connecticut. 15 But I'm also a licensed athletic trainer in the 16 states of New York and Connecticut. So I do work 17 medical -- or I work events where medical care is 18 needed -- so, for instance, like the Boston Marathon or 19 New York City Marathon or other large-scale events like 20 that where I work to take care of people who have 21 medical conditions. 22 Q. What percentage of your work is spent serving as 23 a licensed athletic trainer? 24 A. I'd say about five percent. 25 Q. And explain for me then with that license, what</p>	<p>1 practice and what you can do. 2 A. Yeah. 3 Q. So is it more like a first responder, like a 4 paramedic that may show up if an ambulance is called? 5 A. No, no. So an athletic trainer is there all the 6 time. 7 So like they would be there at the high school 8 doing lots of things to prevent the condition from 9 happening in the first place. So they might modify 10 work-to-rest ratios. They might modify the intensity of 11 a workout, or the time of day, or conditioning that's 12 done, or stretching or strengthening -- anything that 13 could optimize health and safety prevention-wise. 14 Then they're there to try to recognize conditions 15 at the earliest possible point to maybe prevent them 16 from becoming more severe. 17 Then if a severe thing does happen, they're there 18 to treat it -- or any kind of conditions they're there 19 to treat. But obviously, the severe ones are the most 20 important. 21 And then they do rehabilitation for these people. 22 So physical therapy people would need. 23 But then they also do return-to-play issues to 24 help that person get back to either military duty or 25 their job or their sport setting.</p>
Page 7	Page 9
<p>1 does that enable to you do in regards to the field of 2 practicing any type of medicine or rendering treatment? 3 A. Yes. So an athletic trainer is a licensed 4 medical professional who deals with the prevention, 5 recognition, treatment, and return-to-play 6 considerations for the physically active. 7 So they traditionally work in, you know, high 8 school, college, professional sports settings. They 9 work a lot in the military. 10 So they're very much focused on medical issues 11 that are relevant to the physically active. 12 Q. At the -- typically at the scene of whatever the 13 event is? You mentioned Boston Marathon, for example? 14 A. I mean, it depends. Like, you could -- I mean, 15 there's athletic trainers for every NFL team, every high 16 school team, every college team. 17 Or special forces, like, in the military have 18 athletic trainers. 19 So yeah, they're usually present to try to 20 optimize health and safety for the population they're 21 serving. 22 Q. I'm just trying to get an understanding, because 23 I'm not you -- 24 A. Yeah. 25 Q. -- and sort of have you explain to me your</p>	<p>1 Q. So if we focus on the aspect of the treatment. 2 If, for example, you were at a sporting event, somebody 3 suffers a heated-related episode; you may provide some 4 type of first aid or treatment on site? 5 A. Yes. 6 Q. And then I'm trying to determine how far does 7 your licensing or expertise carry you? 8 In other words, if a paramedic shows up with an 9 ambulance, do you then defer the treatment of that 10 patient at the scene to the paramedics once they arrive? 11 A. So that's a great question. So it would be 12 dependent on the setting. 13 So if you were working at, like, a Falmouth Road 14 race like every August they have in Cape Cod, 15 Massachusetts; the setup they have there is they have 16 athletic trainers and physicians on site. 17 And they take care of the heat strokes -- and we 18 average, like, 20 heat strokes a year there -- they take 19 care of the heat strokes on site completely. 20 And then only if it's some other mitigating 21 circumstance would the EMT-EMS take over and take them 22 to the hospital. 23 In a high school/college setting it depends on 24 what policies you have in place. So a lot of the 25 advanced colleges and high schools have something called</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 10</p> <p>1 cool first, transport second.</p> <p>2 So the athletic trainer would be a hundred</p> <p>3 percent in charge of care for the heat stroke until the</p> <p>4 person's temperature is back down to 102 or 3. And then</p> <p>5 the EMT's-EMS's would then take the patient to the</p> <p>6 hospital.</p> <p>7 So it just depends on the setting and the</p> <p>8 policies that you have in place.</p> <p>9 (Off the record.)</p> <p>10 BY MR. SCHMITT:</p> <p>11 Q. In a typical setting when a patient suffers a</p> <p>12 heat-related illness and there is EMT or emergency</p> <p>13 medical service personal that arrive, in that type of</p> <p>14 setting then would you typically defer the treatment at</p> <p>15 that point to that individual?</p> <p>16 A. Like I said, it really depends on the policies,</p> <p>17 because we've -- for colleges and pro teams and high</p> <p>18 schools, if they have the right policies in place, even</p> <p>19 if the ambulance arrives, the athletic trainer would</p> <p>20 still be in charge until the person's temperature is</p> <p>21 under the dangerous threshold; and then they send them.</p> <p>22 Because you don't ever want to send someone in an</p> <p>23 ambulance while they're still 106 degrees if they're</p> <p>24 being cooled properly on site, because the key to</p> <p>25 surviving a heat stroke is minimizing the number of</p>	<p style="text-align: right;">Page 12</p> <p>1 And I'd say about 20 percent of my time is, like,</p> <p>2 leadership and service.</p> <p>3 Q. What's "leadership and service"?</p> <p>4 A. Meaning like the Korey Stringer Institute, I'm</p> <p>5 the CEO of. So like having to run that organization.</p> <p>6 Or service could be like committees or department -- you</p> <p>7 know, school-wide university committees I have to serve</p> <p>8 on.</p> <p>9 Q. With the Korey Stringer Institute, you said</p> <p>10 you're the CEO?</p> <p>11 A. Yes.</p> <p>12 Q. What does it do?</p> <p>13 A. Yes. So the Korey Stringer Institute is a</p> <p>14 not-for-profit that's focused on promoting health and</p> <p>15 safety for the athlete or fighter and laborer.</p> <p>16 And we have 80 people who work at the Korey</p> <p>17 Stringer Institute. It's about 60 volunteers and about</p> <p>18 20 staff. And we have, you know, extensive research and</p> <p>19 educational issues that we do.</p> <p>20 We work with all branches of the military. We</p> <p>21 work closely with different groups that oversee laborer</p> <p>22 health and safety. We deal with all 50 states for their</p> <p>23 high school athletic policies. We work with a lot of</p> <p>24 professional sport leagues and teams.</p> <p>25 So we have a pretty far reach.</p>
<p style="text-align: right;">Page 11</p> <p>1 minutes they're hyperthermic.</p> <p>2 So it really depends on the setting. If you're</p> <p>3 at a youth soccer game and you don't have appropriate</p> <p>4 cooling strategies on site and an ambulance arrives, you</p> <p>5 would immediately send that person to a hospital.</p> <p>6 So if you don't have medical care there and the</p> <p>7 EMT-EMS arrives; they would immediately try to,</p> <p>8 obviously, get them to advanced care.</p> <p>9 Q. Is this license as a licensed athletic trainer,</p> <p>10 is that something that's recognized in all states; or</p> <p>11 just certain states have it?</p> <p>12 A. That's a great question. So 49 of the 50 states</p> <p>13 recognize licensure for athletic training.</p> <p>14 So California, it's reached the Governor's desk,</p> <p>15 like, eight times in the last 30 years; and for whatever</p> <p>16 reason they don't want to pay for the person to oversee</p> <p>17 the licensing board there.</p> <p>18 Q. All right. So five percent of your time as a</p> <p>19 licensed athletic trainer.</p> <p>20 The other 95 percentage of your time is spent --</p> <p>21 Just break it down for me.</p> <p>22 A. Sure, yes. I'd say about 50 percent of my time</p> <p>23 is research.</p> <p>24 I would say about 25 percent of my time is</p> <p>25 teaching.</p>	<p style="text-align: right;">Page 13</p> <p>1 Q. And is that located here at the University of</p> <p>2 Connecticut?</p> <p>3 A. Yes.</p> <p>4 Q. All right. I'm handing you what's been marked as</p> <p>5 Exhibit No. 151. Is that at least part of your CV that</p> <p>6 you brought with you here today?</p> <p>7 A. Yes. So this is my first 40 pages of my CV</p> <p>8 because I updated references yesterday from recent</p> <p>9 research articles so I wanted to make sure that they</p> <p>10 were included for the record.</p> <p>11 And then I'll send a PDF of the complete CV.</p> <p>12 Q. All right.</p> <p>13 MR. COX: Dave, it's Jim. Let me interrupt.</p> <p>14 Because I've marked another couple of</p> <p>15 exhibits in a motion I'm filing, would you mind</p> <p>16 jumping up to about 160 with your next exhibit.</p> <p>17 MR. SCHMITT: So is 161 okay?</p> <p>18 MR. COX: Yes, 161 is great.</p> <p>19 (Off the record.)</p> <p>20 (Defendant's Exhibit 161, Curriculum Vitae,</p> <p>21 marked for identification.)</p> <p>22 MR. SCHMITT: All right. We can go back on.</p> <p>23 For purposes of our record we renumbered the</p> <p>24 CV that had been initially identified as now it</p> <p>25 will be Exhibit No. 161.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 14</p> <p>1 BY MR. SCHMITT:</p> <p>2 Q. And Doctor, you were indicating that then what</p> <p>3 you'll do is after the deposition, you'll send a PDF of</p> <p>4 your entire CV to both Jim Cox and myself?</p> <p>5 A. Yes.</p> <p>6 Q. And the only part that's missing out of</p> <p>7 Exhibit No. 161 was primarily your publications and</p> <p>8 things of that nature?</p> <p>9 A. Well, I updated the publications. So I wanted to</p> <p>10 make sure you had the current ones while we were sitting</p> <p>11 here today.</p> <p>12 Q. All right.</p> <p>13 A. Nothing had been changed in the next 60 pages, so</p> <p>14 I just didn't print those.</p> <p>15 Q. All right. In regards to your publications, just</p> <p>16 looking at this in general, the names and publications,</p> <p>17 you can see there's typically multiple names in any</p> <p>18 given publication; true?</p> <p>19 A. Yes.</p> <p>20 Q. All right. And the names are ordered. Sometimes</p> <p>21 your name may be first, sometimes it's in the middle,</p> <p>22 sometimes at the end; true?</p> <p>23 A. Yes.</p> <p>24 Q. Am I correct that any time -- that the first</p> <p>25 named individual in any publication is typically the</p>	<p style="text-align: right;">Page 16</p> <p>1 clinical management of heat stroke, I'd say would be the</p> <p>2 most relevant.</p> <p>3 Q. Where the "term heat" stroke might appear in</p> <p>4 the --</p> <p>5 A. Heat stroke doesn't always appear in the title if</p> <p>6 it's something that looks at exercise heat tolerance.</p> <p>7 Things that look at exercise heat tolerance could</p> <p>8 be things that we looked at hydration studies, body</p> <p>9 cooling, heat acclimatization.</p> <p>10 (Off the record.)</p> <p>11 THE WITNESS: You know, clothing, equipment,</p> <p>12 those kinds of studies.</p> <p>13 BY MR. SCHMITT:</p> <p>14 Q. All right. And, of course, Mr. Herrera has a</p> <p>15 heat-related illness issue in this case.</p> <p>16 But other than just simply dealing with heat</p> <p>17 stroke or heat intolerance, are there any publications</p> <p>18 dealing -- where if you had to single something out that</p> <p>19 would really be focused on issues in this case?</p> <p>20 For example, in a railroad setting -- I mean,</p> <p>21 you're familiar with the issues in this case. Is there</p> <p>22 some that you would consider to be particularly pointed?</p> <p>23 A. That's a good question. I don't have any</p> <p>24 publications specific to, like, the train industry, for</p> <p>25 instance.</p>
<p style="text-align: right;">Page 15</p> <p>1 primary author?</p> <p>2 A. Yes.</p> <p>3 Q. And then after that if, for example, you as a</p> <p>4 professor are overseeing the student that might be</p> <p>5 writing this article, then your name would appear to be</p> <p>6 also given credit recognition as the supervising --</p> <p>7 A. Yeah, I'd either usually be second or last is</p> <p>8 usually tradition in the field.</p> <p>9 Q. And is it true most of these publications that we</p> <p>10 see here are they -- many of them your students that are</p> <p>11 working on their Ph.D.'s?</p> <p>12 A. Yeah. They're all my projects; but they're</p> <p>13 writing the publications, yes.</p> <p>14 Q. All right. Is there any publication -- I know</p> <p>15 this Exhibit 161 you said was updated with current</p> <p>16 publications.</p> <p>17 Is there anything that would be specifically</p> <p>18 focused or you believe particularly relevant to</p> <p>19 Mr. Herrera's case?</p> <p>20 A. I mean, there's a lot of publications related to</p> <p>21 heat stroke in there.</p> <p>22 Q. Right.</p> <p>23 A. So those would be the most relevant or anything</p> <p>24 related to -- you know, all the studies that we looked</p> <p>25 at that assess exercise heat tolerance or deal with the</p>	<p style="text-align: right;">Page 17</p> <p>1 I do have a book coming out -- well, I have two</p> <p>2 books coming out that are not in there because they're</p> <p>3 not out yet, obviously.</p> <p>4 One is Maximizing Health and Safety During</p> <p>5 Exercise in the Heat, and it has sections related to</p> <p>6 laborers.</p> <p>7 And then next winter we have another book coming</p> <p>8 out that's very specific to a laborer, that we've joined</p> <p>9 forces with OSHA and NIOSH, NOAA, and some other</p> <p>10 governmental organizations to try to bring together some</p> <p>11 of the knowledge we have in sports medicine to try and</p> <p>12 carry it over a little more into the laborer workforce.</p> <p>13 Q. Those publications have not yet gone to press?</p> <p>14 A. The first one is really close. It's coming out,</p> <p>15 like, this summer, that I mentioned.</p> <p>16 Q. What's its title?</p> <p>17 A. I knew you were going to ask that. I honestly</p> <p>18 don't have it memorized.</p> <p>19 It's Maximizing Health and Safety for the</p> <p>20 Physically Active During Exercise in the Heat.</p> <p>21 Don't hold me accountable to the exact words; but</p> <p>22 that's the theme.</p> <p>23 Q. Who's the publisher?</p> <p>24 A. Springer. It's out of New York.</p> <p>25 I think officially it's coming out in September</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 18</p> <p>1 or October.</p> <p>2 Q. And was that in collaboration with other --</p> <p>3 A. I'm the only editor of the book. But there's 19</p> <p>4 chapters in the book. And then I got a leading person</p> <p>5 in the world to write the chapters.</p> <p>6 Q. To actually write them?</p> <p>7 A. Yes.</p> <p>8 Q. And who was that?</p> <p>9 A. Oh, I had 19 different people.</p> <p>10 Q. Oh, I see.</p> <p>11 A. Yeah. So each chapter -- like, you know, there's</p> <p>12 a chapter on military, there's a chapter on laborers,</p> <p>13 there's a chapter on athletics, a chapter on hydration;</p> <p>14 things like that.</p> <p>15 Q. Understood. And you were the editor of the book?</p> <p>16 A. Yes.</p> <p>17 Q. All right. And then that second publication is</p> <p>18 coming out when?</p> <p>19 A. I guess March-April of '18.</p> <p>20 Q. And the name?</p> <p>21 A. That is -- Do you want me to look it up? I can</p> <p>22 tell you.</p> <p>23 Q. If you can do it quickly, that's fine.</p> <p>24 A. Yes, I can do it quick, I think.</p> <p>25 It's titled Human Health and Physical Activity in</p>	<p style="text-align: right;">Page 20</p> <p>1 Q. What other type of consulting?</p> <p>2 A. Like if I go assist a company or give a talk or</p> <p>3 provide advice to an organization or -- so, like, Nike</p> <p>4 or Gatorade, for instance, might ask my advice on</p> <p>5 something; and I'll be paid for that.</p> <p>6 Or I go give a talk, it would be consulting</p> <p>7 because I might get an honorarium.</p> <p>8 Q. On litigation-related matters where you're</p> <p>9 actually serving as an expert witness, what percentage</p> <p>10 of your work or time is spent with that?</p> <p>11 A. If I said -- my total time of all my work I do,</p> <p>12 if I said 10 percent is consulting, I'd probably say 7</p> <p>13 or 8 percent of my total time is an expert witness.</p> <p>14 Q. And how many of those cases have been --</p> <p>15 Well, how many cases have you served as a</p> <p>16 litigation expert in your career?</p> <p>17 A. So that's good. I brought this just to try and</p> <p>18 be helpful.</p> <p>19 This is prior experience as an expert. And it's</p> <p>20 updated to, I think, this case. But I also -- at the</p> <p>21 end there's other cases that are just in the mix right</p> <p>22 now. So I just put placeholders there for names. And</p> <p>23 then there's other ones that have, you know -- just</p> <p>24 getting started.</p> <p>25 Q. Okay.</p>
<p style="text-align: right;">Page 19</p> <p>1 the Heat.</p> <p>2 And just to give you a feel of the contents, like</p> <p>3 there's a chapter -- a military chapter, an OSHA</p> <p>4 chapter, NIOSH chapter, NOAA -- which is -- you know,</p> <p>5 deals with weather stuff; things like that.</p> <p>6 Q. And what was your contribution for that work?</p> <p>7 A. I'm a co-editor on that book. I'm an editor with</p> <p>8 another person.</p> <p>9 Q. And the actual content was then written by</p> <p>10 someone else?</p> <p>11 A. Yeah. I mean, I'm author on a couple of the</p> <p>12 chapters in there. But, yeah, there's a lot of other</p> <p>13 people involved.</p> <p>14 Q. So primarily you're a co-editor of that</p> <p>15 publication?</p> <p>16 A. Yeah.</p> <p>17 Q. All right. What percentage of your practice is</p> <p>18 spent on litigation-related matters?</p> <p>19 A. Well, it's not part of my job at all at</p> <p>20 University of Connecticut. I'm allowed a certain amount</p> <p>21 of consulting time.</p> <p>22 But my total, like, life work that do I would</p> <p>23 probably say 5 to 10 -- I'd say 10 percent is consulting</p> <p>24 if all -- if I encapsulate all consulting; because I do</p> <p>25 consulting beyond just being an expert witness.</p>	<p style="text-align: right;">Page 21</p> <p>1 MR. SCHMITT: We'll mark this as Exhibit No.</p> <p>2 164.</p> <p>3 (Defendant's Exhibit 164, Prior Experience</p> <p>4 as an Expert marked for identification.)</p> <p>5 THE WITNESS: So to answer your question, I</p> <p>6 think I've been involved in the ballpark of 40</p> <p>7 to 42 cases thus far.</p> <p>8 BY MR. SCHMITT:</p> <p>9 Q. All right.</p> <p>10 A. They're not complete descriptions of all of them</p> <p>11 because the last, like, five to seven; like, those have</p> <p>12 just been people in the last few months that have called</p> <p>13 me. Those are, like, in the mix right now.</p> <p>14 Q. Items 28 through 33 --</p> <p>15 A. Are in the mix.</p> <p>16 But then there's still, like, another seven for</p> <p>17 people who have reached out in the last few months where</p> <p>18 I've never even received materials yet or I'm not</p> <p>19 involved yet. But they just asked for my assistance.</p> <p>20 Q. I note that Item No. 20 is the Jared Whitt versus</p> <p>21 Union Pacific Railroad Company case.</p> <p>22 A. Yes.</p> <p>23 Q. And that was a case that the same lawyer, Jim</p> <p>24 Cox, was involved in?</p> <p>25 A. Yes.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 22</p> <p>1 Q. All right. Other than the Jared Whitt case and</p> <p>2 then the present case, have you had any other cases with</p> <p>3 Mr. Cox or another attorney from his office?</p> <p>4 A. Can I look at that?</p> <p>5 Q. Sure.</p> <p>6 A. I don't have it memorized. I don't want to give</p> <p>7 a wrong answer.</p> <p>8 So I believe that the current case is the second</p> <p>9 case I've been working with Mr. Cox.</p> <p>10 MR. COX: Dave, that's correct.</p> <p>11 MR. SCHMITT: Okay.</p> <p>12 BY MR. SCHMITT:</p> <p>13 Q. Of the cases where you've served as a litigation</p> <p>14 expert, what percent have been on behalf of the</p> <p>15 Plaintiff versus the Defendant?</p> <p>16 A. If we used 40 as the anchor, I would say 34 or 5</p> <p>17 have been for the Plaintiff and 5 or 6 -- that's just an</p> <p>18 estimate right now -- for the defense.</p> <p>19 Q. Okay. And of those defense cases --</p> <p>20 A. Can I make one note, also?</p> <p>21 Q. Sure.</p> <p>22 A. I just want to make -- point one thing out.</p> <p>23 What I have listed here are cases I assisted with</p> <p>24 that reached the level of me doing an opinion; so either</p> <p>25 an opinion, deposition, testifying at trial.</p>	<p style="text-align: right;">Page 24</p> <p>1 that have been defense. And, I think for some of them</p> <p>2 it's been wanting to know quickly if it's worth</p> <p>3 investing to, like, push through or maybe just settle</p> <p>4 this quickly; it might be just a better use of</p> <p>5 resources.</p> <p>6 Q. How many cases in your career where you've served</p> <p>7 as a litigation expert involved the railroad industry?</p> <p>8 Are they typically identified here in the</p> <p>9 description if it involved a railroad?</p> <p>10 A. I'll give you the super quick count. I think</p> <p>11 it's about seven or eight. I'll tell you right now.</p> <p>12 (Pause.)</p> <p>13 So I'll give you a number so you can just make a</p> <p>14 note.</p> <p>15 Q. Sure.</p> <p>16 A. No. 7, Nos. 8, 11, 19, 20, 26, 27, 28.</p> <p>17 I'm not a hundred percent sure on these. I have</p> <p>18 to check. But of the ones listed in depth, those are --</p> <p>19 those are helpful.</p> <p>20 What was the total count there?</p> <p>21 Q. Eight.</p> <p>22 A. Yeah, there you go.</p> <p>23 Q. And just for the record, the ones that you said</p> <p>24 you weren't sure on are these last ones -- Items 28</p> <p>25 through 33 -- where it's just a name --</p>
<p style="text-align: right;">Page 23</p> <p>1 There are many, many other cases where people</p> <p>2 call me up; I have a three or four-hour conversation</p> <p>3 with them; and I might recommend to them not to pursue</p> <p>4 it or I might recommend to them to settle it because</p> <p>5 it's unwinnable based on the evidence.</p> <p>6 So I don't include those all here because I just</p> <p>7 don't have enough to keep track of all of those.</p> <p>8 So there's many times people will call me up.</p> <p>9 And I'll give a block of time. And it never even</p> <p>10 becomes a case because they'll just, you know, deal with</p> <p>11 it -- they'll either not take the case or they'll settle</p> <p>12 it very quickly before anybody does depositions or</p> <p>13 opinions.</p> <p>14 I just wanted to make you aware of that.</p> <p>15 Q. All right. And --</p> <p>16 A. So those are, like, my formal -- ones I formally</p> <p>17 have been involved with.</p> <p>18 Q. When you're called to evaluate a case and whether</p> <p>19 or not -- for example, you said to take a case or to get</p> <p>20 rid of it, are they typically on behalf of the</p> <p>21 Plaintiffs or the Defendants?</p> <p>22 A. It's -- honestly, I'd say more times it's</p> <p>23 Plaintiff. I would say probably 75 to 80 percent of the</p> <p>24 time it's Plaintiffs.</p> <p>25 But I've had more in the last four or five years</p>	<p style="text-align: right;">Page 25</p> <p>1 A. 28 I am sure of.</p> <p>2 Q. Oh.</p> <p>3 A. I gave that as a number.</p> <p>4 But I'm not a hundred percent sure -- actually,</p> <p>5 let me tell you. (Pause.)</p> <p>6 I'm only not sure on 30. But the others are all</p> <p>7 athletics.</p> <p>8 Q. Item 28, railroad case, is that on behalf of the</p> <p>9 Plaintiff or Defendant?</p> <p>10 A. Plaintiff.</p> <p>11 Q. Okay. Item 27, of course, is the present case.</p> <p>12 That's for Plaintiff.</p> <p>13 26 is Plaintiff, 20 is Plaintiff.</p> <p>14 Now, you said 19 -- although that was a prisoner</p> <p>15 case --</p> <p>16 A. I apologize. Wrong number. Yeah, I shouldn't</p> <p>17 have said that one. It was another -- it was</p> <p>18 industrial, but it's not...</p> <p>19 Q. You identified No. 11. But that says it's a</p> <p>20 Workman Comp case, and it doesn't mention anything about</p> <p>21 railroad.</p> <p>22 A. Yeah. It was connected with a railroad case. It</p> <p>23 was someone loading trucks from a train to a truck and</p> <p>24 things like that, so -- but that was for the defense.</p> <p>25 Q. But there was not a railroad as a Defendant?</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 26</p> <p>1 A. That's correct. It was actually like one of 2 those private companies that oversee the cases. 3 Q. Okay. It looks like 8 was for the Plaintiff. 4 A. Uh-huh. 5 Q. And 7 was for the -- 6 A. Plaintiff. 7 Q. -- Plaintiff? 8 A. Yes. 9 Q. All right. So any cases where you've been 10 involved in where the railroad has actually been named a 11 party, all of those cases have been on behalf of the 12 Plaintiff? 13 A. Yes. 14 Q. All right. Now, in regards to the Jared Whitt 15 case that you were hired by Mr. Cox in the past, of 16 course, that case went to litigation. You gave a 17 deposition? 18 A. Yes. 19 Q. I did have an opportunity to take your deposition 20 in that case. 21 A. Yes. 22 Q. Without going through that deposition here today 23 in its entirety, Doctor, let me just ask you this 24 question: In regards to any of the questions that you 25 were asked at the time, were the answers that you gave,</p>	<p style="text-align: right;">Page 28</p> <p>1 A. Yes. 2 Q. Is that a fair statement? 3 A. (Nodded head affirmatively.) 4 MR. COX: Foundation. 5 BY MR. SCHMITT: 6 Q. So in regards, Doctor, to what happened in the 7 Whitt case versus Union Pacific Railroad Company, I 8 understand you made allegations or assertions in regards 9 to your opinions. 10 But ultimately whatever opinions that you 11 rendered in that case, are they separate and distinct 12 from opinions that you're rendering here in this case 13 here today? 14 A. Yes, so much so I don't remember the details, 15 honestly, of that. I focused very much on this case. 16 To be honest, the only thing that I remembered, I 17 recognized a name or two was similar between the two 18 cases when I read depositions. But I honestly didn't -- 19 that was back in 2013, I think, when I might have done 20 the report for that case. So I didn't get involved with 21 that one again. 22 Q. All right. In regards to the discussion that we 23 had on the medical issues -- heat stroke versus heat 24 exhaustion, treatment protocols, things like that -- the 25 deposition -- let me just take a look -- it was from,</p>
<p style="text-align: right;">Page 27</p> <p>1 would they have been accurate and truthful? 2 A. Yes. 3 Q. All right. Let me just ask, did you happen to 4 read that deposition in preparation for today's 5 deposition? 6 A. I did not. 7 Q. Sure, that's fine. 8 A. Sure. 9 Q. You understand that the Jared Whitt case, that 10 was a separate litigation unrelated to this present 11 litigation involving Mr. Herrera? 12 A. Yes. 13 Q. And that Union Pacific Railroad denied those 14 allegations that were alleged by Mr. Whitt in that case? 15 A. I don't know those details. 16 Q. Sure. 17 A. All right. 18 Q. Certainly I can represent to you that the 19 allegations were contested, and there was a dispute. 20 A. Okay. 21 Q. Is it fair to say that in probably all cases 22 where you've given a deposition that the reason you're 23 giving a deposition is that there were allegations that 24 were made, and there were allegations that were being 25 defended and disputed by the other party?</p>	<p style="text-align: right;">Page 29</p> <p>1 actually, 2014 -- February of 2014. 2 A. Okay. 3 Q. So about three years ago. Am I able to rely on 4 those answers today as being, again, the manner in which 5 you would hold your opinions in regards to these 6 heat-exertional-related-illness issues? 7 A. Yes. I mean, I'm sure we could review the top 8 line items. But I don't believe anything's changed 9 since then in terms of my viewpoints. 10 Q. In regards to your railroad work -- so you have 11 served as a litigation expert in railroad cases. Have 12 you ever been employed by any railroad? 13 A. No. 14 Q. All right. Have you ever inspected the scene of 15 where Mr. Herrera's incident occurred in Kansas? 16 A. No. 17 Q. Have you ever been present when a steel gang or a 18 surfacing gang is working? 19 A. No. 20 Q. Have you ever operated or even been on any types 21 of the equipment that a steel gang may use like a P car 22 or things like that? 23 A. No. 24 Q. All right. I think I know the answer already 25 based on your prior answers.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 30</p> <p>1 But just going back to your work in the field of</p> <p>2 heat exertion, have you ever served in an emergency room</p> <p>3 setting where you've worked as an emergency room</p> <p>4 provider?</p> <p>5 A. No.</p> <p>6 Q. All right. What do you charge for your</p> <p>7 litigation services to serve as an expert witness?</p> <p>8 A. \$400 an hour.</p> <p>9 Q. And is that the same rate whether you're</p> <p>10 reviewing the case --</p> <p>11 A. (Nodded head affirmatively.)</p> <p>12 Q. -- giving a deposition, or testifying at trial?</p> <p>13 A. Yeah, \$400 for any time related to the case.</p> <p>14 Q. And if you are asked to appear at the trial of</p> <p>15 this case in Omaha, Nebraska -- if you're asked by</p> <p>16 Mr. Cox -- will you appear?</p> <p>17 A. Yes. I mean, obviously, if I have enough</p> <p>18 warning, I will make an effort to obviously appear,</p> <p>19 yeah.</p> <p>20 Q. "Warning" meaning scheduling issues?</p> <p>21 A. Yes, yes.</p> <p>22 Q. Sure. And do you have a day rate then if, for</p> <p>23 example, you travel to Omaha on what you would be</p> <p>24 charging to appear?</p> <p>25 A. I usually just charge \$400 an hour if I'm doing</p>	<p style="text-align: right;">Page 32</p> <p>1 A. I brought that, too. So I have just one bill so</p> <p>2 far that I've submitted.</p> <p>3 Q. Okay.</p> <p>4 A. So you have that.</p> <p>5 THE WITNESS: Jim, I'm giving him the bill.</p> <p>6 MR. COX: That's all right.</p> <p>7 THE WITNESS: I'm giving him the bill from</p> <p>8 August 26th that I submitted to you. Okay?</p> <p>9 MR. COX: Okay.</p> <p>10 THE WITNESS: And then I also kept track of</p> <p>11 the hours since then because I figured you'd</p> <p>12 want to know that.</p> <p>13 (Defendant's Exhibit 165, August 26, 2016,</p> <p>14 Invoice marked for identification.)</p> <p>15 BY MR. SCHMITT:</p> <p>16 Q. So let's do this. So the bill that you submitted</p> <p>17 August 26 of 2016 we're marking as Exhibit 165. And</p> <p>18 that total is \$5,200 for currently 13 hours spent?</p> <p>19 A. Yes.</p> <p>20 Q. All right.</p> <p>21 A. That was to do the opinion that I submitted in</p> <p>22 August.</p> <p>23 Q. And "the opinion" meaning your -- the work that</p> <p>24 resulted in your expert report?</p> <p>25 ///</p>
<p style="text-align: right;">Page 31</p> <p>1 something related to the case.</p> <p>2 So the travel time, I would say, yes. But if I'm</p> <p>3 then working in my hotel room, I wouldn't charge for</p> <p>4 that time.</p> <p>5 So anything I'm just doing related to the case.</p> <p>6 If I'm reviewing for the case, if I'm driving to the</p> <p>7 court room, if I'm waiting to testify; that would be</p> <p>8 related to the case.</p> <p>9 If I'm just sitting working on my University of</p> <p>10 Connecticut stuff, I don't charge for that.</p> <p>11 Q. All right. In regards to your work at the</p> <p>12 University of Connecticut, of course, you would be paid</p> <p>13 by the university for your work that you do for it?</p> <p>14 A. Yes.</p> <p>15 Q. In regards to your litigation work, does</p> <p>16 University of Connecticut get any portion of that or</p> <p>17 does it all just go to you?</p> <p>18 A. It goes to me.</p> <p>19 Q. And that would be true of any even consulting</p> <p>20 work that you do?</p> <p>21 A. Yeah. I have to get consulting approval from</p> <p>22 University of Connecticut for any consulting work I do.</p> <p>23 But then, yes, I receive the funds.</p> <p>24 Q. How much time have you spent up until today on</p> <p>25 this case?</p>	<p style="text-align: right;">Page 33</p> <p>1 A. Yes.</p> <p>2 (Defendant's Exhibit 163, August 11, 2016,</p> <p>3 Expert Report marked for identification.)</p> <p>4 BY MR. SCHMITT:</p> <p>5 Q. And that expert report is marked as Exhibit No.</p> <p>6 163. It's dated August 11, 2016?</p> <p>7 A. Yes.</p> <p>8 Q. So since that time you've done some additional</p> <p>9 work?</p> <p>10 A. Yes.</p> <p>11 Q. What additional work have you done?</p> <p>12 A. Twenty hours since August 26th, not inclusive of</p> <p>13 this depo time --</p> <p>14 Q. Okay.</p> <p>15 A. -- like I'm sitting here today.</p> <p>16 Q. Of those 20 additional hours that you spent after</p> <p>17 your expert report up until today's deposition, what did</p> <p>18 you do?</p> <p>19 A. I was just reviewing materials related to the</p> <p>20 case, things that were sent to me, prepping for this</p> <p>21 deposition.</p> <p>22 As you may remember, we had originally scheduled</p> <p>23 this deposition in March, and then it was moved till</p> <p>24 today.</p> <p>25 Q. Due to snow conditions, the weather --</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 34</p> <p>1 A. Yes.</p> <p>2 Q. -- right.</p> <p>3 A. So four of the dates are February that I had</p> <p>4 accumulated hours because I was prepping for that.</p> <p>5 And then I didn't have any new hours till May</p> <p>6 prepping for this one.</p> <p>7 Does that make sense?</p> <p>8 Q. And so --</p> <p>9 A. These are my only records of that. But you can</p> <p>10 look at that.</p> <p>11 Q. Sure. And we're looking at your handwritten</p> <p>12 notes. You've broken down dates. So of the dates that</p> <p>13 you're identifying -- February 3, 6, 7, and 8, totaling</p> <p>14 11 hours -- that would have been prep time for the prior</p> <p>15 depositions --</p> <p>16 A. Yes.</p> <p>17 Q. -- or prior depo that was scheduled?</p> <p>18 A. (Nodded head affirmatively.)</p> <p>19 Q. And then May 20 -- 20, 22, 23, 24, 25 is for</p> <p>20 prepping for today's depo?</p> <p>21 A. Yes.</p> <p>22 Q. And that's an additional -- it looks like nine</p> <p>23 hours?</p> <p>24 A. Yes.</p> <p>25 Q. Now did you say, Doctor, though, that you had</p>	<p style="text-align: right;">Page 36</p> <p>1 A. Yes. I have this file right here. (Pause.)</p> <p>2 I don't know how you want to label this. And I</p> <p>3 don't know if you have this already.</p> <p>4 But it's Mountain States Physical & Hand</p> <p>5 Therapy -- that's the name of the facility. It's</p> <p>6 functional capacity evaluation.</p> <p>7 And I'll give you a date. It was done</p> <p>8 April 25th, 2017. So that was one of the items.</p> <p>9 Something called an After Visit Summary from SCL</p> <p>10 Health, and it's also -- it's April 25th, 2017.</p> <p>11 So these were three new items I just got.</p> <p>12 And one is called SCL Health MyChart. I'm</p> <p>13 assuming it's the same -- related to that visit. It's</p> <p>14 four pages -- this one.</p> <p>15 I'll let you know what the other one is. The</p> <p>16 other one's -- the second one was five pages.</p> <p>17 The first one, the report, is 13 pages.</p> <p>18 Let me see if there are any others. I think</p> <p>19 that's close. (Pause.)</p> <p>20 So one other thing I know that is -- I don't have</p> <p>21 that -- this is my copy -- but there's a chronology of</p> <p>22 events. So I do want you to note I did include it in my</p> <p>23 original report. It's "E."</p> <p>24 Q. Right.</p> <p>25 A. But this was updated since then. So this is a</p>
<p style="text-align: right;">Page 35</p> <p>1 some additional time spent in reviewing more materials?</p> <p>2 A. Yeah. So there's a couple materials that I had</p> <p>3 received since this, a statement, but also re-reading</p> <p>4 some of the original materials.</p> <p>5 Q. How much time have you spent reading additional</p> <p>6 materials? And are you charging for those? Or are they</p> <p>7 included in this 20 hours we just --</p> <p>8 A. No, no, 20 hours is all the time I've put into</p> <p>9 the case since August 26th.</p> <p>10 Q. Including the time spent reading materials?</p> <p>11 A. Yes.</p> <p>12 Q. About how much of the time then, Doctor, where</p> <p>13 you spent reading the extra materials versus just prep</p> <p>14 time for depositions?</p> <p>15 A. I don't know.</p> <p>16 Q. Let me just ask this. I'm trying to find out how</p> <p>17 many additional materials you received.</p> <p>18 So let me just ask you that. What additional</p> <p>19 materials did you receive?</p> <p>20 A. I'd have to go through them. There's not that</p> <p>21 many. Maybe like five to seven items, I'm going to</p> <p>22 guess.</p> <p>23 Q. You have a laptop with you. Is it something you</p> <p>24 can just pull up and just identify for us by name what</p> <p>25 they were?</p>	<p style="text-align: right;">Page 37</p> <p>1 newer version.</p> <p>2 Q. Okay.</p> <p>3 A. So I just wanted you to know it's January 31st,</p> <p>4 2017.</p> <p>5 Q. All right.</p> <p>6 A. So that was -- if you see these hours, I had just</p> <p>7 gotten this when I sat down to start doing some work on</p> <p>8 that.</p> <p>9 Q. All right. And so that's been updated.</p> <p>10 Here's what we'll do, Doctor. I know this is</p> <p>11 your copy.</p> <p>12 A. Yes.</p> <p>13 Q. We'll leave this with you. But we'll mark this</p> <p>14 as Exhibit 166; and we'll make sure that we just take a</p> <p>15 copy for the court reporter --</p> <p>16 A. Sure, absolutely.</p> <p>17 Q. -- and you get your original back.</p> <p>18 A. Yes. That's why I included it -- brought it.</p> <p>19 Q. All right.</p> <p>20 (Defendant's Exhibit 166, Chronology of</p> <p>21 Events marked for identification.)</p> <p>22 BY MR. SCHMITT:</p> <p>23 Q. So you identified those three additional medical</p> <p>24 records -- the FCE and the two other medical records.</p> <p>25 Did any of those medical records change or alter your</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 38</p> <p>1 opinions in any respect?</p> <p>2 A. No. The one I just told you about from</p> <p>3 April 2017 was kind of just a medical checkup he had to</p> <p>4 kind of give a status report of where he is right now.</p> <p>5 And it doesn't change anything that's in my documents.</p> <p>6 Because when I wrote that in August, it's similar to how</p> <p>7 he's doing now.</p> <p>8 Q. In regards to the updated chronology of events</p> <p>9 that we just marked as an exhibit, did anything in there</p> <p>10 change any of your opinions?</p> <p>11 A. No, no opinions were changed.</p> <p>12 Q. All right. Anything else that you have read or</p> <p>13 reviewed after authoring your report, Exhibit 163, that</p> <p>14 we haven't discussed?</p> <p>15 A. Let me just give one quick check. I tried to do</p> <p>16 this this morning for you. (Pause.)</p> <p>17 So I did receive -- I have to just...</p> <p>18 So this is a cover letter that will hopefully be</p> <p>19 helpful for us.</p> <p>20 Q. And this is a cover letter dated November 3,</p> <p>21 2016, that actually identifies some additional materials</p> <p>22 that you reviewed?</p> <p>23 A. Yes.</p> <p>24 Q. They're reports from Drs. Goldner, Carollo,</p> <p>25 Nelson, and Diaz.</p>	<p style="text-align: right;">Page 40</p> <p>1 letter as Exhibit 168.</p> <p>2 (Defendant's Exhibit 168, Letter dated</p> <p>3 December 19, 2016 from Mr. Cox marked for</p> <p>4 identification.)</p> <p>5 BY MR. SCHMITT:</p> <p>6 Q. It's a letter dated December 19, 2016, from</p> <p>7 Mr. Cox where he's enclosing the videotape from the</p> <p>8 deposition of Mr. Herrera taken May 5, 2016.</p> <p>9 A. Yes.</p> <p>10 Q. All right. Did you watch that entire videotape?</p> <p>11 A. Not the whole thing. I watched a portion of it.</p> <p>12 Q. How much time did you spend looking at it?</p> <p>13 A. I'd say 40 to 45 minutes.</p> <p>14 Q. Was there anything in regards to your viewing the</p> <p>15 videotape that changed or altered any of your opinions?</p> <p>16 A. No.</p> <p>17 Q. Coming back to Exhibit 167, you mentioned that</p> <p>18 you reviewed at least three of these expert reports.</p> <p>19 First Dr. Carollo, he's a cardiologist?</p> <p>20 A. Yes.</p> <p>21 Q. All right. Doctor, do you have any special</p> <p>22 training or education in the field of cardiology?</p> <p>23 A. No.</p> <p>24 Q. Is there anything about what Dr. Carollo said in</p> <p>25 his report that affects or alters your opinions in this</p>
<p style="text-align: right;">Page 39</p> <p>1 MR. SCHMITT: For our record we'll mark that</p> <p>2 as 167.</p> <p>3 (Defendant's Exhibit 167, November 3, 2016,</p> <p>4 Cover Letter marked for identification.)</p> <p>5 BY MR. SCHMITT:</p> <p>6 Q. We've marked that cover letter as Exhibit 167.</p> <p>7 It looks like according to this letter there were</p> <p>8 also some records from Del Sol Medical Center for an</p> <p>9 admission on August 24 of 2016 including an EEG report.</p> <p>10 Did you review all of these materials that are</p> <p>11 identified in Exhibit 167?</p> <p>12 A. I have not. For time reasons, I didn't. I</p> <p>13 reviewed the Diaz one.</p> <p>14 Q. Okay.</p> <p>15 A. And I -- I'd have to -- I'd have to double-check.</p> <p>16 I believe I checked -- I believe I did two, three, and</p> <p>17 four. I don't know if I did Goldner.</p> <p>18 Q. Okay.</p> <p>19 A. All right.</p> <p>20 Q. I guess before we come back to that, anything</p> <p>21 else, Doctor, that you reviewed --</p> <p>22 A. Yes.</p> <p>23 Q. -- after your report?</p> <p>24 A. This is another cover letter.</p> <p>25 MR. SCHMITT: So we'll mark this cover</p>	<p style="text-align: right;">Page 41</p> <p>1 case?</p> <p>2 A. No.</p> <p>3 Q. Let me ask you this: Are you rendering any</p> <p>4 cardiology opinions in this case?</p> <p>5 A. No.</p> <p>6 Q. All right. And so in regards to whatever</p> <p>7 Dr. Carollo may be expressing by his opinions, are you</p> <p>8 refuting or commenting at all on those?</p> <p>9 A. Only if he commented specifically on heart</p> <p>10 illnesses I would refute because it's my area of</p> <p>11 expertise.</p> <p>12 But I would have no comment related to</p> <p>13 cardiovascular issues or that of a cardiologist.</p> <p>14 Q. All right. Dr. Kevin Nelson, neuroradiologist;</p> <p>15 you're not licensed or no training as a</p> <p>16 neuroradiologist; true?</p> <p>17 A. True.</p> <p>18 Q. Are you refuting or disputing anything that</p> <p>19 Dr. Kevin Nelson may be saying in this or opinions that</p> <p>20 he's rendering in this case?</p> <p>21 A. No.</p> <p>22 Q. Dr. James Diaz. Do you know Dr. James Diaz?</p> <p>23 A. No.</p> <p>24 Q. Is there anything that Dr. James Diaz said in his</p> <p>25 expert reports that you are refuting or disputing?</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 42</p> <p>1 A. Nothing changes my opinion.</p> <p>2 But I do believe I disagreed with some of his</p> <p>3 perspectives on heat illness in there. But I can't</p> <p>4 recount for you exactly at this point what they were.</p> <p>5 Q. All right.</p> <p>6 A. Yeah, but I would want to keep open the potential</p> <p>7 to disagree with some of his statements.</p> <p>8 Q. To the extent that it's in the area of a</p> <p>9 heat-related illness and something that you would be</p> <p>10 expressing an opinion on differently than what Dr. Diaz</p> <p>11 is?</p> <p>12 A. Yes.</p> <p>13 Q. All right. Dr. Goldner, you don't believe you</p> <p>14 reviewed his report?</p> <p>15 A. I don't think I did.</p> <p>16 Q. And Dr. Goldner is a neurologist. Do you have</p> <p>17 any specialized training in the field of neurology?</p> <p>18 A. No.</p> <p>19 Q. All right. So Doctor, is there anything else</p> <p>20 that you reviewed after authoring your original expert</p> <p>21 report that we haven't discussed?</p> <p>22 A. Now, this is the stuff I wanted to share with</p> <p>23 you. This is some of the work I did since August, is</p> <p>24 why those hours had accumulated.</p> <p>25 Q. So if I understand your prior testimony then,</p>	<p style="text-align: right;">Page 44</p> <p>1 A. That's what I've tried to share with you so far.</p> <p>2 And I didn't print out every single item or</p> <p>3 deposition because if they were included already, you</p> <p>4 know I already have them. So I didn't print out</p> <p>5 thousands of pages.</p> <p>6 Many of the items I received just, you know, only</p> <p>7 came via PDF. I never had hard copies.</p> <p>8 Q. Understood. While you didn't print them out, the</p> <p>9 items that you did receive and that are part of your</p> <p>10 work file are identified in No. 163 or what we've just</p> <p>11 discussed?</p> <p>12 A. Yes.</p> <p>13 Q. All right. Other than that, you've brought with</p> <p>14 you any of the other materials?</p> <p>15 A. Yes.</p> <p>16 Q. All right. So in going through Exhibit No. 163,</p> <p>17 let me ask you -- I believe I understand and recognize</p> <p>18 all of these.</p> <p>19 I do note Exhibit No. Q, it says: Herrera's</p> <p>20 symptoms 9/22/15.</p> <p>21 What is that? I'm just not certain if I know.</p> <p>22 A. Yeah, I'd have to -- I'd have to spend some time</p> <p>23 finding that for you. I mean, remember I wrote this in</p> <p>24 August. So I'd have to think about that. I don't have</p> <p>25 an answer right now.</p>
<p style="text-align: right;">Page 43</p> <p>1 nothing additional that you've reviewed has altered or</p> <p>2 changed any opinions that you've expressed in</p> <p>3 Exhibit 163?</p> <p>4 A. That's correct.</p> <p>5 Q. And does Exhibit No. 163 contain a complete</p> <p>6 disclosure of all of your opinions and your bases for</p> <p>7 your opinions?</p> <p>8 A. Yes.</p> <p>9 Q. Let's go through this and talk about this in a</p> <p>10 little bit greater detail.</p> <p>11 Is this the only document, Doctor, that you</p> <p>12 authored in regards to this case?</p> <p>13 A. Just a minute.</p> <p>14 (Off the record.)</p> <p>15 THE WITNESS: I have not authored anything</p> <p>16 else related to this case.</p> <p>17 (Defendant's Exhibit 162, Amended Notice To</p> <p>18 Take Deposition marked for identification.)</p> <p>19 BY MR. SCHMITT:</p> <p>20 Q. All right. Just for our record I'm handing you</p> <p>21 what's been marked as Exhibit 162. This was a notice</p> <p>22 for your deposition asking you to bring various</p> <p>23 materials.</p> <p>24 Did you bring those materials with you here</p> <p>25 today?</p>	<p style="text-align: right;">Page 45</p> <p>1 I mean, I'm sure I have something. That's why I</p> <p>2 wrote that, because I just had a -- I went through every</p> <p>3 single item I had.</p> <p>4 Hold on. This is file -- there's a file named</p> <p>5 Herrera Symptoms. 9/22/15 is the date.</p> <p>6 Q. That's it. Okay.</p> <p>7 A. Yeah, okay.</p> <p>8 Q. And what is that?</p> <p>9 A. So it looks like a handwritten note.</p> <p>10 And now I remember because I think it's written</p> <p>11 by his fiancée or girlfriend.</p> <p>12 This letter is written by me, Cynthia Hernandez,</p> <p>13 since Guillermo's hands were going numb often.</p> <p>14 Written September 21st, 2015.</p> <p>15 Q. And that's a how-many-page document?</p> <p>16 A. Four.</p> <p>17 Q. And is there a date on that document?</p> <p>18 A. Well, she dated it the 21st; but it's 22nd on the</p> <p>19 file that I received.</p> <p>20 Q. All right, of 2015?</p> <p>21 A. Yes.</p> <p>22 Q. All right. Here's what I'd like to do, Doctor.</p> <p>23 Are you able to --</p> <p>24 A. I can email it to you right now.</p> <p>25 Q. Sure.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 46</p> <p>1 A. Do you want it just on a break-out email or do 2 you need it right now?</p> <p>3 Q. You know what? We can do it after the 4 deposition. It will be fine.</p> <p>5 A. I'd add it to my list.</p> <p>6 Q. That's fine.</p> <p>7 Some of the Exhibits that are identified are 8 Federal regulations from the Federal Railroad 9 Administration; is that right?</p> <p>10 A. Yes.</p> <p>11 Q. Item No. T?</p> <p>12 A. Yes.</p> <p>13 Q. All right. Have you ever been employed by the 14 FRA?</p> <p>15 A. No.</p> <p>16 Q. Do you have any specialized legal training?</p> <p>17 A. No.</p> <p>18 Q. Are you rendering any legal opinions in this case 19 in regards to the interpretation of Federal regulations?</p> <p>20 A. No.</p> <p>21 Q. The same with the United States Code, Item No. 2, 22 Federal Railroad Safety Act. Again, have you ever been 23 employed by the FRA or the government in regards to 24 federal requirements for railroads in regards to 25 reporting accidents or anything of that nature?</p>	<p style="text-align: right;">Page 48</p> <p>1 It's July 2015.</p> <p>2 Q. In regards to Item V, the General Code of 3 Operating Rules, is that a document that you're familiar 4 with?</p> <p>5 A. When I read it, I'd say yes. Not at this second 6 right now, the whole thing.</p> <p>7 But I've certainly reviewed it a few different 8 times. And I -- I think I probably reviewed the fourth, 9 fifth, sixth, seventh editions over the last ten years.</p> <p>10 Q. Well, I'll tell you it's a pretty large book.</p> <p>11 A. Yes.</p> <p>12 Q. Is it fair to say that you're looking at certain 13 rules that are selected for you by the attorney that's 14 asking you to take a look at it?</p> <p>15 A. That is correct. But I also -- we've also used 16 that in classes I teach and other things that we write; 17 because if we're looking for current advice out there -- 18 like in the military world, athletic world, laborer 19 world -- related to like heat illness -- so like 20 prevention, recognition, and treatment of heat illness.</p> <p>21 So I've looked it professionally, not just 22 related to litigation.</p> <p>23 Q. You said you've actually taught some courses 24 where the General Code of Operating Rules is a topic?</p> <p>25 A. Yes, because we -- I teach grad classes. And one</p>
<p style="text-align: right;">Page 47</p> <p>1 A. No.</p> <p>2 Q. Are you rendering any legal opinions, Doctor, in 3 regards to the interpretation or application of any 4 Federal regulations or United States Code regulations in 5 regards to reporting accidents?</p> <p>6 A. No.</p> <p>7 I did just remember one item. I did get a 8 weather report sent to me -- and I don't have it, I have 9 to find it -- for the July weather of where they were in 10 California beforehand.</p> <p>11 So I'm just letting you know that.</p> <p>12 Q. When did you receive it?</p> <p>13 A. I don't remember. I just remember I had it.</p> <p>14 And I'm just seeing it's not here right now. And 15 I'm thinking I received it since this report. So this 16 report is accurate.</p> <p>17 But I think I had asked, like, the weather 18 conditions he was in, you know, before heading to Kansas 19 from California.</p> <p>20 So I can send that to you as well. I'll make 21 that a PDF if I find it.</p> <p>22 Q. Sure, that would be fine.</p> <p>23 A. So it's California weather report.</p> <p>24 Q. Did that change or alter your opinions?</p> <p>25 A. No, no.</p>	<p style="text-align: right;">Page 49</p> <p>1 of the grad classes is exertional heat stroke. That's 2 -- the whole class is just heat stroke.</p> <p>3 I have another class just on preventing sudden 4 death during physical activity.</p> <p>5 So we've review just, like, what's the industry 6 standard for the oil industry or for the Army or for 7 different areas. So we scour, you know, the current 8 recommendations.</p> <p>9 Q. So the class that you teach on exertional heat 10 stroke is called just that?</p> <p>11 A. Yes.</p> <p>12 Q. What book do you use for that?</p> <p>13 A. Fifteen whole weeks just on heat stroke. Crazy, 14 right?</p> <p>15 Q. What's the text?</p> <p>16 A. We don't have a text book. We just use all the 17 current literature.</p> <p>18 There's not really a text book out there that -- 19 you know, that you could use for 15 weeks just on heat 20 stroke. So we use the current research.</p> <p>21 Q. And so you give your students handouts during the 22 class?</p> <p>23 A. Yeah. Or they sometimes help identify the 24 current things.</p> <p>25 And that's part of the class assignments. So</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 50</p> <p>1 people might be assigned different things to try to 2 identify some of the current recommendations. 3 Q. Do you have a curriculum, then, for that 4 particular class? 5 A. Like a syllabus? 6 Q. A syllabus. 7 A. Yes. 8 Q. Do you? Can I get a copy of that syllabus? 9 A. Sure. 10 Q. Who knows, maybe I'll become a student here. 11 A. There you go. You can do it online. 12 Q. Oh, do you offer online courses here? 13 A. We don't. But we have guest speakers all the 14 time come in, like, from all the different industries 15 like military people and OSHA and NIOSH people come in 16 to try to -- 17 The students who are sitting in my classes, you 18 know, end up working in these settings later. So it's 19 very useful for them. 20 Q. I'm curious, how big are the classes here that 21 you teach? 22 A. Grad level classes are probably between 12 and 23 15. 24 My undergrad classes can be anywhere between 15 25 and 30. They're upper level classes.</p>	<p style="text-align: right;">Page 52</p> <p>1 What are you trying to express by breaking these 2 down into -- quote -- considerations? Are they just 3 different topics? Or how would you characterize -- 4 A. Well, it's kind of just -- kind of telling a 5 story. So like a little bit of an overview in the 6 beginning of the medical condition that we're dealing 7 with. 8 And then we get into issues related -- things 9 that can compromise exercise heat tolerance to try to 10 get a sense of if any or some or all of those were 11 present. 12 And then try to then draw some conclusions on if 13 some of those were present, can they have been modified? 14 And then if they could have been modified, were 15 they? 16 And then, you know, if they weren't modified; did 17 that have an implication on the outcome? 18 Q. Have you ever personally examined Mr. Herrera? 19 A. So I saw the video that I mentioned earlier. 20 Q. Yes. 21 A. And I did have a phone conversation with him. 22 Q. When did you speak with him? 23 A. I knew you were going to ask that. I don't know. 24 It's -- Is it okay if I -- he may -- it was January or 25 February. It was before the deposition we were planning</p>
<p style="text-align: right;">Page 51</p> <p>1 Q. How many classes do you teach in an average 2 semester? 3 A. I usually -- for people who are 4 research-intensive here, the course load is two in the 5 fall and two in the spring. 6 But I typically buy out of a class in the spring. 7 So I usually do two in the fall and one in the spring. 8 Q. All right. 9 Going back then to your expert report. After the 10 introductory section that tells us everything that 11 you've reviewed, then it's broken down into seven 12 Considerations they're titled -- 13 A. Yes. 14 Q. -- is that right? 15 And in fact, as part of this exhibit, Doctor, 16 there is a section for the prior experience as an 17 expert. That contains some of the same information as 18 the document we already marked showing your litigation 19 history? 20 A. Sure. So the document I gave you today is more 21 updated. That's what why I brought it for you. 22 Q. Understood. 23 A. Yes. 24 Q. And let's first get an understanding then in 25 regards to the seven considerations.</p>	<p style="text-align: right;">Page 53</p> <p>1 to have in March. So -- 2 Q. Of this year? 3 A. Correct. So 2017. 4 Q. And -- 5 A. So it was January or February of 2017. 6 Q. How long did that conversation last? 7 A. I'll say 20 to 30 minutes. 8 Q. What was the purpose of the conversation? 9 A. Oh, I just -- I wanted to get a sense of his 10 memory of different signs and symptoms and things he 11 felt that day; but then also just get a sense of his 12 current well-being in terms of, like, you know, thought 13 processing, especially his heat intolerance now. 14 Like, can he go outside and exercise in the heat? 15 Does he have any lingering sequela from the exertional 16 heat stroke? 17 Q. What did Mr. Herrera tell you? 18 A. Stuff that's -- nothing changed in terms of my 19 opinion. It was very consistent with what we've read so 20 far and his medical reports had been up to this point. 21 So it was very, very consistent. 22 Q. Is there anything that sticks out in your mind 23 that he specifically said to you? 24 A. No. I can't say -- I didn't get any, like, new 25 information during that call.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 54</p> <p>1 Q. All right.</p> <p>2 A. It reinforced what I had already known.</p> <p>3 Q. So in other words, let me ask you this, in</p> <p>4 regards to the medical records, typically a healthcare</p> <p>5 provider will take a subjective history?</p> <p>6 A. Yes.</p> <p>7 Q. And they'll ask the patient: Hey, how you doing?</p> <p>8 How are you feeling? Things like that?</p> <p>9 A. Yes.</p> <p>10 Q. So what Mr. Herrera is telling you, are you</p> <p>11 telling me essentially that it appeared to you to be</p> <p>12 consistent during your phone call what he was telling</p> <p>13 you as far as what he was telling his -- the doctors?</p> <p>14 A. And what he said in his deposition.</p> <p>15 Q. All right.</p> <p>16 A. All very consistent.</p> <p>17 Q. Did you take any notes from that conversation?</p> <p>18 A. I didn't, no.</p> <p>19 Q. All right. And --</p> <p>20 A. I would have if there was something I needed.</p> <p>21 There was just nothing different.</p> <p>22 Q. Okay. Let's go through some of these</p> <p>23 considerations in a little bit greater detail.</p> <p>24 Do you need a break or how are we doing?</p> <p>25 (Off the record.)</p>	<p style="text-align: right;">Page 56</p> <p>1 the thermoregulatory system. So your body</p> <p>2 temperature -- you're creating more heat than you can</p> <p>3 lose during a set period of time.</p> <p>4 Most people define heat stroke somewhere around</p> <p>5 105 degree Fahrenheit range.</p> <p>6 The two key diagnostic criteria for heat stroke</p> <p>7 are usually central nervous system impairment and</p> <p>8 extreme hyperthermia at the time of the incident. So</p> <p>9 most people would say 105 or greater. And then some</p> <p>10 kind of CNS impairment.</p> <p>11 There are other signs and symptoms; but those two</p> <p>12 are usually the key diagnostic criteria.</p> <p>13 And then the outcome you see with a heat stroke</p> <p>14 long-term is related to the number of minutes that</p> <p>15 someone's hyperthermic. So if someone's above the</p> <p>16 threshold -- somewhere around 105 -- if they're above</p> <p>17 that for 30 minutes, there's an increased likelihood</p> <p>18 that they'll either die or have long-term complications</p> <p>19 from the incident.</p> <p>20 The evidence indicates if their temperature is</p> <p>21 under -- if it can get under 105 within 30 minutes, the</p> <p>22 evidence indicates a hundred percent survival based on</p> <p>23 over 2,000 cases we've reviewed.</p> <p>24 Q. So a hundred percent survival if the temperature</p> <p>25 of 105 or more lasts no more than 30 minutes?</p>
<p style="text-align: right;">Page 55</p> <p>1 BY MR. SCHMITT:</p> <p>2 Q. So Consideration No. 1, it says: Guillermo</p> <p>3 Herrera suffered an exertional heat stroke on July 26,</p> <p>4 2015.</p> <p>5 Tell me all bases for you rendering that opinion</p> <p>6 that he suffered an exertional heat stroke.</p> <p>7 A. That's my interpretation based on the signs and</p> <p>8 symptoms, on the situation in which it occurred, and</p> <p>9 then the complications of recovery thereafter.</p> <p>10 Q. So what were the signs and symptoms that</p> <p>11 occurred?</p> <p>12 A. Sure. I mean, there's a lot of them. But things</p> <p>13 that he was feeling that day; things like being faint,</p> <p>14 dizzy, nauseous, diarrhea, light-headed, confused, more</p> <p>15 fatigued than usual, not able to support himself. Those</p> <p>16 are just an example of some.</p> <p>17 Q. I made a list of what you just identified, eight</p> <p>18 items.</p> <p>19 And is it your understanding that Mr. Herrera</p> <p>20 experienced all of these before he was seen at the</p> <p>21 hospital that day?</p> <p>22 A. Yes.</p> <p>23 Q. Now in regards to heat -- exertional heat stroke,</p> <p>24 first define for me what is exertional heat stroke.</p> <p>25 A. So exertional heat stroke is an overwhelming of</p>	<p style="text-align: right;">Page 57</p> <p>1 A. That is correct.</p> <p>2 Q. All right.</p> <p>3 A. So then if it's over that temperature -- like, in</p> <p>4 the 30 to 60 minute window -- they're likely to survive;</p> <p>5 but they're likely to have long-term complications, but</p> <p>6 hopefully or likely not to be permanent complications.</p> <p>7 If it's over 60 minutes, they're very likely to</p> <p>8 die related to the incident. If they do survive,</p> <p>9 they're very likely to have some permanent consequences</p> <p>10 from it.</p> <p>11 Q. So over 60 minutes, likely to die.</p> <p>12 What's the literature say around the percentage</p> <p>13 of -- or the percentage of individuals who do die from</p> <p>14 that?</p> <p>15 A. I would say it's at least three-quarters of the</p> <p>16 people would die if they're hyperthermic for more than</p> <p>17 60 minutes.</p> <p>18 Remember this isn't an extremely easy thing to</p> <p>19 study, because you obviously can't put people into</p> <p>20 different buckets. You know, like you're not going to</p> <p>21 get cool; you're going to get cool. So you have to look</p> <p>22 back retroactively.</p> <p>23 But I think that gives you a good idea.</p> <p>24 Q. And of the other 25 percent who suffer that heat</p> <p>25 for over 60 minutes, what percentage of those will have</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 58</p> <p>1 permanent complications?</p> <p>2 A. What percent of the 25 percent?</p> <p>3 Q. Right, that survive.</p> <p>4 A. I would say probably 50 to 75 percent of that</p> <p>5 remaining group will have permanent complications.</p> <p>6 They'll almost all have complications. They</p> <p>7 just -- for some lucky ones they're not permanent.</p> <p>8 I've found -- we have found that when someone's</p> <p>9 young, super healthy at the time of the heat stroke --</p> <p>10 like if you're a 20-year-old, super-fit linebacker, you</p> <p>11 have a heat stroke and happen to be hyperthermic for a</p> <p>12 longer period of time, they're the ones that seem to</p> <p>13 have that chance to maybe not have permanent</p> <p>14 complications as compared to some other people who have</p> <p>15 heat stroke and don't get treated properly.</p> <p>16 Q. For the individuals that are in the 30-minute to</p> <p>17 60-minute window, what percentage will suffer</p> <p>18 complications?</p> <p>19 A. I would say about a third of that group will die.</p> <p>20 And then I would say two-thirds will have</p> <p>21 complications.</p> <p>22 And of those two-thirds, I would say about a</p> <p>23 third are permanent. And when I say "permanent," just,</p> <p>24 you know, I'm meaning, like, two, three, four years;</p> <p>25 because sometimes they don't get to look at them, like,</p>	<p style="text-align: right;">Page 60</p> <p>1 when you're diagnosing exertional heat stroke, I</p> <p>2 mentioned temperature before. Rectal temperature is</p> <p>3 really the most accurate way to get that.</p> <p>4 So we don't have a rectal temperature during the</p> <p>5 day, at the time of collapse, during recovery. We have</p> <p>6 no temperature for at least, like, a six or seven-hour</p> <p>7 window from when he first had signs or symptoms to when</p> <p>8 -- the second he arrives at the hospital.</p> <p>9 So these are just obviously having to make -- I'm</p> <p>10 just using my best clinical judgment.</p> <p>11 Q. Tell me what facts are you relying on to support</p> <p>12 your -- Strike that.</p> <p>13 What are the facts that you are relying on as the</p> <p>14 basis for all of the opinions that you're giving in this</p> <p>15 case in regards to the chronology of the events that</p> <p>16 day?</p> <p>17 A. Yeah. So I'd say it's multifaceted. So you have</p> <p>18 the circumstances in which he was.</p> <p>19 So you have people doing intense exercise in the</p> <p>20 heat. You have the signs and symptoms that he reported</p> <p>21 through the morning into the early afternoon.</p> <p>22 Q. Let me just stop you for just a moment.</p> <p>23 And those are the eight signs and symptoms that</p> <p>24 you've already mentioned: Fainting, dizzy, nausea,</p> <p>25 light-headed, confusion, fatigue, not able to support</p>
<p style="text-align: right;">Page 59</p> <p>1 20 years later because we don't have the ability to know</p> <p>2 that much later.</p> <p>3 Q. And by temporary complications, what would you</p> <p>4 use for the cutoff for time period?</p> <p>5 A. I would usually say three to six months. And</p> <p>6 temporary -- like, they usually have the ability to get</p> <p>7 back to what they were doing before.</p> <p>8 So whether it be playing football, their job,</p> <p>9 being a war fighter; their body eventually makes a full</p> <p>10 recovery.</p> <p>11 Q. In which of these categories do you place</p> <p>12 Mr. Herrera?</p> <p>13 A. Oh, I would say the last one. He was -- I</p> <p>14 believe he was hyperthermic for more than 60 minutes.</p> <p>15 Q. Why do you say that?</p> <p>16 A. Just based on my clinical experience related to</p> <p>17 exertional heat stroke.</p> <p>18 If he was struggling in the morning. And then he</p> <p>19 fell out or, like, wasn't able to continue work</p> <p>20 somewhere around, you know, 1:00, 1:30 range; and then,</p> <p>21 you know, at least a couple hours where he wasn't</p> <p>22 getting aggressive cooling.</p> <p>23 So my clinical judgment says that he was</p> <p>24 hyperthermic for an hour or two at least.</p> <p>25 But, I mean, obviously, we don't have any -- so</p>	<p style="text-align: right;">Page 61</p> <p>1 himself, and -- I can't read my writing. Is it</p> <p>2 disoriented?</p> <p>3 A. Diarrhea.</p> <p>4 Q. Diarrhea. Correct?</p> <p>5 A. Yeah. I'm not saying that that eight is the</p> <p>6 exhaustive list; but those are eight examples.</p> <p>7 Q. Of what Mr. Herrera had during the day before</p> <p>8 admitting to the hospital?</p> <p>9 A. Yes.</p> <p>10 Q. All right. So that was -- Item 1 was intense</p> <p>11 exercise in the heat.</p> <p>12 Item 2 --</p> <p>13 A. Well, we could probably make those two different</p> <p>14 ones. You have exercise is one item, and heat is the</p> <p>15 second item, then third is his signs and symptoms he's</p> <p>16 reporting.</p> <p>17 Q. Okay.</p> <p>18 A. And then fourth is his inability to recover</p> <p>19 after.</p> <p>20 Q. Inability to recovery after what?</p> <p>21 A. After the incident, so like in the days ensuing.</p> <p>22 So just to give you an example. If it was a more</p> <p>23 mild heat illness, he would be back to normal within a</p> <p>24 day or two.</p> <p>25 So it eliminates all the other heat illnesses and</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 62</p> <p>1 funnels my thoughts to consider it being a heat stroke.</p> <p>2 Q. But in regards to the actual facts, the</p> <p>3 chronology of events that occurred that day -- you</p> <p>4 already alluded to some of it. But I want to make sure</p> <p>5 I understand specifically what you are relying on as</p> <p>6 being accurate of the events that day.</p> <p>7 When did he first start experiencing problems?</p> <p>8 How did he progress during the day?</p> <p>9 I think you mentioned something about 1:00 or</p> <p>10 1:30.</p> <p>11 But take me through that. So what are you</p> <p>12 assuming occurred that day in order to support these</p> <p>13 opinions?</p> <p>14 A. Yeah. So somewhere around mid-morning he was</p> <p>15 struggling. So that he was resting in the shade next to</p> <p>16 a tree, took a break.</p> <p>17 And this is a person, obviously, who -- at least</p> <p>18 based on the stuff that I was provided -- had always</p> <p>19 been a good worker. One person referred to him as a</p> <p>20 Super Man. Another person said he was a very hard</p> <p>21 worker. So a person who had not had previous struggles</p> <p>22 or difficulties in these circumstances; and he's taking</p> <p>23 a break.</p> <p>24 He goes back to work. He's struggling again.</p> <p>25 Q. Now when you use the term "struggling," so he's</p>	<p style="text-align: right;">Page 64</p> <p>1 A. Then at this point I believe one of his</p> <p>2 supervisors is very stern about him returning to work.</p> <p>3 So he maybe feels pressured to return. And now he goes</p> <p>4 again to try to work again.</p> <p>5 Q. How much time does he spend in the vehicle with</p> <p>6 the air conditioning?</p> <p>7 A. I'm not exactly sure. I'm going to say 30 to</p> <p>8 60 minutes.</p> <p>9 Q. And then as a result of a supervisor being stern,</p> <p>10 he returns back to work?</p> <p>11 A. I'm not saying that was the only reason; but that</p> <p>12 was something that was anchored in the literature that I</p> <p>13 read.</p> <p>14 Q. So he goes back to work at what time?</p> <p>15 A. I'm going to say somewhere around noon or 12:30</p> <p>16 range.</p> <p>17 Q. And then what happens?</p> <p>18 A. Then he goes back. And he's working again. And</p> <p>19 he is struggling again.</p> <p>20 At this point, I guess, it gets to the point</p> <p>21 where he has to sit down again. And I think one of his</p> <p>22 colleagues calls for assistance now at this point.</p> <p>23 And someone sends a vehicle for him. And he has</p> <p>24 to be helped to the vehicle because he can't support his</p> <p>25 own weight.</p>
<p style="text-align: right;">Page 63</p> <p>1 struggling mid-morning and to the point that then he</p> <p>2 takes a break in the shade. What do you mean by</p> <p>3 "struggling"?</p> <p>4 A. Like, light-headed, dizzy, inability to keep up</p> <p>5 the pace at which he's working.</p> <p>6 Q. So by mid-morning he's light-headed; he's dizzy;</p> <p>7 he's unable to keep up with his coworkers.</p> <p>8 Anything else?</p> <p>9 A. No. The fact that he was perceptive enough to</p> <p>10 know that he wasn't himself was actually a good thing.</p> <p>11 Because not all people who go to the path of heat stroke</p> <p>12 necessarily are able to really have this</p> <p>13 self-perception. So he obviously knew that he was not</p> <p>14 up to par.</p> <p>15 So then he went back to work.</p> <p>16 And then he's not feeling well again. And he</p> <p>17 seeks out the shelter of a vehicle that has air</p> <p>18 conditioning.</p> <p>19 Q. What time did he do that?</p> <p>20 A. I -- these are all based on estimates from</p> <p>21 people -- so I think somewhere around 10:30, 11:00</p> <p>22 range.</p> <p>23 We don't have formal time stamps on some of these</p> <p>24 things. So...</p> <p>25 Q. Okay.</p>	<p style="text-align: right;">Page 65</p> <p>1 In fact, one of the colleagues says that he's</p> <p>2 like dragging his feet at this point because these two</p> <p>3 men are carrying him to a car; and he's in no way</p> <p>4 providing any assistance himself.</p> <p>5 And he's said to be confused at this time and</p> <p>6 having some other signs and symptoms that we already</p> <p>7 reported.</p> <p>8 So those things all told together makes me think</p> <p>9 that he was suffering a heat stroke at this point.</p> <p>10 Q. And so what time is this that this happens?</p> <p>11 A. I believe that -- I don't know if someone could</p> <p>12 look into the records of when those calls were made --</p> <p>13 but I think it was around 1:00 or 1:30.</p> <p>14 Q. Well, and I'm asking for the assumptions that you</p> <p>15 are making in order to form your opinions. And that's</p> <p>16 what you're telling me here?</p> <p>17 A. Yeah. I believe this is the first time, though,</p> <p>18 that we could actually get a time stamp.</p> <p>19 If he used a cell phone, I believe you could --</p> <p>20 probably could actually get an official log of the time,</p> <p>21 is what I'm saying.</p> <p>22 I don't know the official time; but I'm saying</p> <p>23 someone probably could find it out.</p> <p>24 Q. But you're assuming that this was at 1:00 or 1:30</p> <p>25 that this takes place?</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 66</p> <p>1 A. Yes.</p> <p>2 Q. And at 1:00 or 1:30 you itemized several things.</p> <p>3 Let's go through these.</p> <p>4 So Mr. Herrera at this point is struggling to the</p> <p>5 point that he needs to sit down. He cannot support his</p> <p>6 own weight in any way?</p> <p>7 A. Yes.</p> <p>8 Q. And he needs to be literally carried by two</p> <p>9 people to this vehicle to transport him away?</p> <p>10 A. Yes.</p> <p>11 Q. He's expressing confusion?</p> <p>12 A. Well, he's exhibiting it, I'd say, yes.</p> <p>13 Q. Can you explain how he's exhibiting confusion?</p> <p>14 A. Oh, no, that was just someone -- one of the</p> <p>15 people reported that.</p> <p>16 Q. And then what else in addition? You said then</p> <p>17 the signs and symptoms of earlier, meaning?</p> <p>18 A. What I had shared with you earlier --</p> <p>19 Q. So those eight items?</p> <p>20 A. -- faint, dizzy, nauseous.</p> <p>21 I've dealt with a lot of exertional heat strokes.</p> <p>22 And these are very similar symptomatology and</p> <p>23 circumstances to what I've seen previously.</p> <p>24 Q. Okay. Anything else that Mr. Herrera is</p> <p>25 experiencing or facts that are occurring at this point</p>	<p style="text-align: right;">Page 68</p> <p>1 A. That's a good question. That's a good question.</p> <p>2 So --</p> <p>3 MR. COX: Excuse me, Doug.</p> <p>4 Form and foundation.</p> <p>5 THE WITNESS: So good question because I</p> <p>6 think a lot of the people -- I think hopefully</p> <p>7 almost all these people are telling the truth.</p> <p>8 So some of the people are reporting no</p> <p>9 confusion. They might have had interactions</p> <p>10 with him at times during the day where he didn't</p> <p>11 exhibit confusion. So they might have been</p> <p>12 telling the good, honest truth.</p> <p>13 But then you also have situations -- so I</p> <p>14 think I know at least three circumstances where</p> <p>15 people reported him being -- having confusion.</p> <p>16 So it was three different people. So that helps</p> <p>17 me say it's just not one person's interpretation</p> <p>18 of this.</p> <p>19 BY MR. SCHMITT:</p> <p>20 Q. And so for purposes of your opinion you're</p> <p>21 assuming he did, in fact, have confusion?</p> <p>22 A. Yes, that there was some amount of CNS</p> <p>23 dysfunction.</p> <p>24 Q. And then what happens next in regards to the</p> <p>25 events that day that you're relying on to support your</p>
<p style="text-align: right;">Page 67</p> <p>1 to lead you to form your opinion that he suffered an</p> <p>2 exertional heat stroke at this time at 1:00 to 1:30?</p> <p>3 A. No, not -- up to this point we're good. So I'll</p> <p>4 have more later.</p> <p>5 Q. Let me ask you this, Doctor: Of all of these</p> <p>6 items that you've just identified, of course, you're</p> <p>7 assuming that all of these things, in fact, occurred;</p> <p>8 right?</p> <p>9 A. So, yeah. When I read the stuff, I just assume</p> <p>10 people are all being -- I can't, like, pick through</p> <p>11 materials to see who's telling the truth and who's not.</p> <p>12 So this is based on the materials that were shared with</p> <p>13 me, and collectively I formed this opinion.</p> <p>14 Q. Because there can be evidence in the record of</p> <p>15 other individuals that are, for example, speaking with</p> <p>16 Mr. Herrera who don't support these things.</p> <p>17 For example, no confusion, or he doesn't have</p> <p>18 this problem, or he doesn't have that problem.</p> <p>19 Here is my question: How do you determine if you</p> <p>20 have -- just generally, if you have a group of people --</p> <p>21 six, eight, ten people -- who all say this man has no</p> <p>22 confusion; and you have one person and possibly the</p> <p>23 Plaintiff himself who says I do have confusion; how do</p> <p>24 you make a distinction on which one you find to be</p> <p>25 credible?</p>	<p style="text-align: right;">Page 69</p> <p>1 opinions?</p> <p>2 A. So some people come to assist. They bring the</p> <p>3 vehicle. He gets on the vehicle.</p> <p>4 That person who came to assist, I believe, calls</p> <p>5 his own supervisor to get kind of maybe directive of</p> <p>6 what to do.</p> <p>7 And I guess they come to some decision to meet at</p> <p>8 some kind of convenience store or gas station to either</p> <p>9 evaluate the situation or maybe transfer him to another</p> <p>10 vehicle. So...</p> <p>11 Q. What time are you assuming for purposes of your</p> <p>12 opinions that this vehicle came to assist?</p> <p>13 A. I'll just check the name.</p> <p>14 So Diaz, I think, is the supervisor.</p> <p>15 So I believe that they probably met this person</p> <p>16 in the 2:00, 2:30 range.</p> <p>17 Q. Met where?</p> <p>18 A. At this convenience store, service station. I</p> <p>19 really am not exactly aware.</p> <p>20 Q. So they go from the job site to this gas station,</p> <p>21 convenience store?</p> <p>22 A. Yes.</p> <p>23 Q. They arrive there at the gas station around 2:00,</p> <p>24 2:30 is what you're assuming?</p> <p>25 A. Yes. And then Mr. Diaz interacts with</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 70</p> <p>1 Mr. Herrera and his colleague that brought him. And</p> <p>2 then he -- they make the decision at this point to bring</p> <p>3 him to, kind of, the work headquarters where they have,</p> <p>4 like, a cooling station.</p> <p>5 Q. How was Mr. Herrera doing at the time of the</p> <p>6 meeting at the gas station around 2:00 or 2:30?</p> <p>7 A. I would say he still feels out of sorts. I do</p> <p>8 think he's able to communicate verbally.</p> <p>9 But I think you have to remember one of the key</p> <p>10 aspects -- and I noted it somewhere in my report -- when</p> <p>11 someone's suffering a heat stroke, their opinion is</p> <p>12 just -- is not very worthy. So when you ask someone:</p> <p>13 Do you want to go to the hotel? Do you want to go the</p> <p>14 cooling station? Do you want to go to the hospital?</p> <p>15 People suffering a heat stroke, they can't properly</p> <p>16 clinically diagnose their own situation at all.</p> <p>17 I've dealt with many, many heat stroke people</p> <p>18 that if you ask them; they say they're fine, they want</p> <p>19 to go with their family. And then you check their</p> <p>20 temperature, it's 108 degrees. And they're in a really</p> <p>21 bad situation.</p> <p>22 Q. Is it important, though, to communicate with the</p> <p>23 patient?</p> <p>24 A. Absolutely. But given all the circumstances of</p> <p>25 someone who struggled through the day in the heat;</p>	<p style="text-align: right;">Page 72</p> <p>1 important amount of time that we lost the ability to</p> <p>2 provide medical care.</p> <p>3 Q. So you're assuming that three hours of time</p> <p>4 passes from when Mr. Herrera, you said, goes down until</p> <p>5 he arrives at the hospital?</p> <p>6 A. I'm estimating.</p> <p>7 Q. Approximately three hours?</p> <p>8 A. Yeah. With the 1:30 at the job site and 4:30</p> <p>9 approximately that he's logged into the hospital.</p> <p>10 Q. And you're assuming that timeframe to be what, in</p> <p>11 fact, occurred in this case, approximately three hours?</p> <p>12 A. Yes.</p> <p>13 Q. All right. And again, Doctor, to the extent that</p> <p>14 any of these facts change -- that it turns out that some</p> <p>15 of these facts that you're assuming to be correct</p> <p>16 aren't, in fact, accurate -- that, of course, can affect</p> <p>17 your opinions in this case; true?</p> <p>18 A. Yes.</p> <p>19 Q. And it could change your opinions; correct?</p> <p>20 A. Well, yes, if something -- if I had new</p> <p>21 information that told me something that is different</p> <p>22 from what I know right now.</p> <p>23 Q. From what you're assuming right now to be</p> <p>24 accurate?</p> <p>25 A. Yes.</p>
<p style="text-align: right;">Page 71</p> <p>1 needed to be carried to a truck -- and the person who is</p> <p>2 doing the handoff was aware of that -- had exhibited</p> <p>3 confusion; many, many signs of heat on this; that at</p> <p>4 this point, certainly, the person should have been</p> <p>5 transported to medical care.</p> <p>6 Because you have two nonmedical providers trying</p> <p>7 to formulate an opinion of what's the best course of</p> <p>8 action for Guillermo at that time.</p> <p>9 Q. Is he doing better at the time he's being</p> <p>10 assessed when he's at the gas station? Is he the same?</p> <p>11 Is he worse than what he had been at the job site?</p> <p>12 A. I'd say from the moment when he was carried to</p> <p>13 the car, he was probably doing a little better now that</p> <p>14 he'd been in this other car for a while. But it's a</p> <p>15 very, very, very serious circumstance that, you know,</p> <p>16 needs urgent attention.</p> <p>17 If there was a medical person at their job</p> <p>18 headquarters, I think it warranted maybe to have some</p> <p>19 kind of cursory evaluation.</p> <p>20 But from the time he was -- from the time he goes</p> <p>21 down at his work setting and has to be transported, you</p> <p>22 approximately have three hours transpire before he</p> <p>23 arrives into the hospital.</p> <p>24 And that is, you know, very unfortunate from my</p> <p>25 perspective, obviously, because I feel like that was an</p>	<p style="text-align: right;">Page 73</p> <p>1 Q. At the time of the meet at the gas station -- and</p> <p>2 so Mr. Herrera is communicating, you said, verbally.</p> <p>3 You noted that it is important to communicate</p> <p>4 with the patient. Is that an important part to at least</p> <p>5 assess how they're doing?</p> <p>6 A. Yes.</p> <p>7 Q. Obviously, if a patient can't communicate at all,</p> <p>8 it would appear that that patient is in a worse</p> <p>9 situation than a person that's able to communicate</p> <p>10 normally; true?</p> <p>11 A. Potentially. We have a lot of heat stroke people</p> <p>12 who are not unconscious at the time of the incident. So</p> <p>13 it doesn't necessarily connect with severity down the</p> <p>14 road.</p> <p>15 It's really important to look at this</p> <p>16 holistically because when you have the -- Diaz comes on</p> <p>17 the scene a little later. My impression at least was</p> <p>18 he's not fully informed that Guillermo struggled through</p> <p>19 the morning, and struggled into the early afternoon.</p> <p>20 And I think if you saw everything as a collective</p> <p>21 whole, you would say: Okay, this guy's not been feeling</p> <p>22 well for the last four hours, even though he's taken a</p> <p>23 couple breaks. I'm going to get him medical care.</p> <p>24 So I feel like the whole -- I'm not putting blame</p> <p>25 on any of these employees. Everyone, I'm sure, wanted</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 74</p> <p>1 to do the right thing for Guillermo. But I think</p> <p>2 collectively if you had all the information in front of</p> <p>3 you, if Diaz had to do it again and he knew that he was</p> <p>4 struggling since 9:30, and it's now 1:45 or 2:00, and</p> <p>5 he's still struggling; he's like: I'm just going to</p> <p>6 bring him in. We're going to go to the hospital.</p> <p>7 Q. Continuing then with the events. So they're at</p> <p>8 the gas station 2:00 to 2:30.</p> <p>9 Have you told me at this point about everything</p> <p>10 that occurs at that visit that you're relying on?</p> <p>11 A. Yes.</p> <p>12 Q. And then what happens next?</p> <p>13 A. I believe they take him to a Union Pacific work</p> <p>14 station that they have. Like, their headquarters where</p> <p>15 they have the ability to provide some cooling for him I</p> <p>16 think in the way of rest; air conditioning; and, you</p> <p>17 know, ice packs.</p> <p>18 Q. And what time did they arrive there?</p> <p>19 A. I don't know exactly. But I believe he was there</p> <p>20 for somewhere, like, about 90 minutes.</p> <p>21 I'm not exactly sure of the distances between</p> <p>22 everything, so...</p> <p>23 Q. And they're at the work station. Do you know</p> <p>24 where that is?</p> <p>25 A. I know it's close to the hospital. And it's in</p>	<p style="text-align: right;">Page 76</p> <p>1 It's one thing to give advice. But then if</p> <p>2 you're pushing, obviously, to meet a work standard for a</p> <p>3 day; it's tough for the employees to, kind of, implement</p> <p>4 some of that advice.</p> <p>5 So that's why sometimes you make modifications to</p> <p>6 the work-to-rest ratios on -- during extreme days.</p> <p>7 I know especially Friday and Sunday were extreme.</p> <p>8 It's very unique that Friday was extreme because that</p> <p>9 was their first day, I believe, working in Kansas since</p> <p>10 coming from California.</p> <p>11 So California had -- you know, it was warm out</p> <p>12 for sure. But it was not nearly as humid.</p> <p>13 So they come to this setting. And it's very</p> <p>14 oppressive Friday. They work their butts off, long day.</p> <p>15 Saturday they work hard again. Not as hot Saturday.</p> <p>16 But then hot again Sunday.</p> <p>17 So it's -- you want to see if there's, you know,</p> <p>18 accumulation of stresses. In this high heat conditions</p> <p>19 and a high expectation for work, you want to consider</p> <p>20 modifications to keep them safe.</p> <p>21 And you know, remember, Friday one person had a</p> <p>22 heat illness.</p> <p>23 You know Saturday someone else was struggling.</p> <p>24 And now Sunday you have Guillermo that has to be</p> <p>25 hospitalized.</p>
<p style="text-align: right;">Page 75</p> <p>1 town.</p> <p>2 Q. And you're assuming that Mr. Herrera is there for</p> <p>3 about 90 minutes?</p> <p>4 A. Yes.</p> <p>5 Q. And then what happens?</p> <p>6 A. Then due to his -- maybe their not being</p> <p>7 satisfied with the rate of his recovery, they make the</p> <p>8 decision to bring him to the hospital.</p> <p>9 Q. And they arrived at the hospital, I think you</p> <p>10 said, around 4:30 or so?</p> <p>11 A. I think, yeah.</p> <p>12 Q. In regards to -- you noticed or did you observe</p> <p>13 throughout the records that Union Pacific, as part of</p> <p>14 its work practices, that it stresses to everyone at the</p> <p>15 beginning of the morning when they have job briefings as</p> <p>16 well as through the day to be aware of the heat, to take</p> <p>17 appropriate precautions? Did you see that, Doctor?</p> <p>18 A. I did, yes.</p> <p>19 Q. And is that a good practice by Union Pacific?</p> <p>20 A. Definitely good. I just -- I don't know, I feel</p> <p>21 like if you have extreme circumstances --</p> <p>22 So I think this happened on a Sunday. But Friday</p> <p>23 and Sunday were really intense weather conditions. And</p> <p>24 I don't know if they made modifications based on the</p> <p>25 weather conditions.</p>	<p style="text-align: right;">Page 77</p> <p>1 That's three successive days with three different</p> <p>2 employees that have trouble.</p> <p>3 So I think like -- I think the company's, like,</p> <p>4 on the right page in terms of they're aware of what the</p> <p>5 risks are. But now I think you have to take the next</p> <p>6 step potentially and consider some modifications.</p> <p>7 One good example is Diaz in his deposition said</p> <p>8 he wasn't aware that a heat stroke victim might not be</p> <p>9 able to, you know, accurately portray the severity of</p> <p>10 how they're feeling. And if that person is making that</p> <p>11 ultimate decision of hospital or not, then Diaz needs to</p> <p>12 be fully aware that that's part of the decision-making</p> <p>13 process.</p> <p>14 Q. You're assuming that there was an individual that</p> <p>15 had a heat-related illness two days before, one day</p> <p>16 before, and then Mr. Herrera was No. 3?</p> <p>17 A. Yes.</p> <p>18 Q. And do you know what the circumstances were with</p> <p>19 any of these two prior individuals?</p> <p>20 A. Yeah. So on Friday it was a fellow named Turner.</p> <p>21 And I could give you some of the details. It's</p> <p>22 in the thing that I was sharing with you today.</p> <p>23 Q. The chronology?</p> <p>24 A. Yeah, so the updated one. It's reported right on</p> <p>25 Pages 1 and 2.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 78</p> <p>1 Q. I mean, the chronology that you're referring to</p> <p>2 is Exhibit No. 166 that identifies select testimony --</p> <p>3 A. Yes.</p> <p>4 Q. -- out of depositions that was prepared by</p> <p>5 Mr. Cox; right?</p> <p>6 A. Correct.</p> <p>7 Q. And you're relying on this as part of your --</p> <p>8 A. I just did it as to be more abbreviated -- we</p> <p>9 could go to the official record -- for time reasons.</p> <p>10 Q. That's fine.</p> <p>11 A. And then Marsing on Saturday -- M-a-r-s-i-n-g.</p> <p>12 Just for brevity it's on Page 8 here that there's some</p> <p>13 description of him struggling in the heat on Saturday.</p> <p>14 Q. "Struggling" in what sense?</p> <p>15 A. I can tell you. (Pause.)</p> <p>16 Do you want me to go to the Turner one, too?</p> <p>17 It's up to you.</p> <p>18 Q. You know, the depositions speak for themselves,</p> <p>19 Doctor.</p> <p>20 A. Yeah.</p> <p>21 Q. So I don't think -- I mean, all that you're</p> <p>22 simply doing there are reading if you're looking at --</p> <p>23 A. So Marsing said he was very dizzy and feeling</p> <p>24 light-headed himself on Saturday.</p> <p>25 Q. He didn't seek medical attention?</p>	<p style="text-align: right;">Page 80</p> <p>1 to be doing in order to work in high heat conditions?</p> <p>2 A. Yeah, absolutely. So I'd say there's probably</p> <p>3 four or five things people can do to take responsibility</p> <p>4 for themselves.</p> <p>5 Hydration before work and during and, obviously,</p> <p>6 after if you have to work again the next day.</p> <p>7 And then also being fit, their fitness level.</p> <p>8 Sleeping or trying to make an attempt to get a</p> <p>9 proper amount of sleep.</p> <p>10 Trying to avoid excessive alcohol.</p> <p>11 And fifth would be getting acclimatized to the</p> <p>12 heat. But that's not a hundred percent in control of</p> <p>13 the worker.</p> <p>14 It could be, like, if you're off for three weeks</p> <p>15 and then you're going to a work setting; you say: Well,</p> <p>16 I'd better, you know, get some exercise in the heat</p> <p>17 because I'm about to go do that.</p> <p>18 But if you just literally go from California on a</p> <p>19 Thursday to work Friday, that might not be in their</p> <p>20 control.</p> <p>21 Q. Certainly, the first four items you identified</p> <p>22 are in the control of the worker?</p> <p>23 A. Yes.</p> <p>24 Q. And they need to take responsibility for</p> <p>25 themselves to make sure that they're ready and able to</p>
<p style="text-align: right;">Page 79</p> <p>1 A. No. I'm just trying to give you an idea of</p> <p>2 someone struggling in the heat.</p> <p>3 Q. All right, yes.</p> <p>4 A. That's important information to know because</p> <p>5 that's how you make considerations regarding, you know,</p> <p>6 modifications.</p> <p>7 If I was a supervisor and someone struggled on</p> <p>8 Friday; struggled on Saturday; those are, you know, good</p> <p>9 early warnings signs that maybe this transition from</p> <p>10 California was a little more intense than I thought it</p> <p>11 might be given the more severe medical conditions. And</p> <p>12 maybe there was something unique with the work settings</p> <p>13 here; which, for instance, maybe certain pieces of</p> <p>14 equipment weren't being used and people were having to</p> <p>15 work a little harder than maybe they typically work.</p> <p>16 And, you know, the key factor that drives your</p> <p>17 body temperature up is the intensity of the activity</p> <p>18 even more so than the environmental conditions.</p> <p>19 But when you combine those two factors</p> <p>20 together -- environmental conditions with intensity --</p> <p>21 obviously, those are the times you really want to be</p> <p>22 extra cautious.</p> <p>23 Q. As far as individuals, is it important that an</p> <p>24 individual take care of themselves and their body and</p> <p>25 make sure that they are doing the things that they need</p>	<p style="text-align: right;">Page 81</p> <p>1 work in the high heat conditions?</p> <p>2 A. Yes.</p> <p>3 Q. Let me ask you just in regards to the practices</p> <p>4 that are taking place at Union Pacific this day</p> <p>5 with -- and other days with having job briefings in the</p> <p>6 morning where the issue of heat is being discussed; that</p> <p>7 everybody, you know, make sure that you stay hydrated,</p> <p>8 you know, talk about it, keep an eye on everyone.</p> <p>9 Is that a good practice for Union Pacific to do</p> <p>10 that?</p> <p>11 A. Yes.</p> <p>12 Q. Union Pacific, you saw, provides water, Gatorade,</p> <p>13 fruit to its employees. Is that a good practice?</p> <p>14 A. Yes.</p> <p>15 Q. All right. Union Pacific stresses the importance</p> <p>16 of everyone keeping an eye on everyone else, making sure</p> <p>17 everybody's okay out there. Is that a good practice?</p> <p>18 A. Yes.</p> <p>19 Q. Union Pacific stresses taking breaks whenever an</p> <p>20 employee wants to.</p> <p>21 If in their own individual condition -- whatever</p> <p>22 it may be -- that they feel that, Hey, I need an extra</p> <p>23 break, something beyond what these mandatory breaks are;</p> <p>24 they should take one. Is that a good practice?</p> <p>25 A. Yes.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 82</p> <p>1 Q. Union Pacific provides trucks with air</p> <p>2 conditioning that circulate throughout the gang that can</p> <p>3 be available within minutes by the use of a radio if one</p> <p>4 isn't right next to the employee already. Is that a</p> <p>5 good practice?</p> <p>6 A. Yes.</p> <p>7 Q. Is it a good practice for Union Pacific to have</p> <p>8 its cooling stations set up with canopies, coolers with</p> <p>9 ice and water? Is that all a good practice?</p> <p>10 A. Yes.</p> <p>11 Q. And having water on the machines and available</p> <p>12 throughout the day, as much water as anybody wants; is</p> <p>13 that a good practice?</p> <p>14 A. Yes.</p> <p>15 Q. All right. In regards to the events, then, with</p> <p>16 Mr. Herrera; I mean, is it true that the individual that</p> <p>17 knows their body best is that individual himself or</p> <p>18 herself?</p> <p>19 A. You're meaning like -- are we talking in general</p> <p>20 right now?</p> <p>21 Q. In general, yes, right.</p> <p>22 A. Yes.</p> <p>23 Q. I mean, they know how much sleep they got the</p> <p>24 night before?</p> <p>25 A. Yes.</p>	<p style="text-align: right;">Page 84</p> <p>1 from heat syncope, for instance.</p> <p>2 Q. What's that?</p> <p>3 A. There's many types of heat illnesses. Heat</p> <p>4 syncope is people who have fainting, light-headedness</p> <p>5 related to exposure to the heat or exercise in heat,</p> <p>6 dehydration.</p> <p>7 And there's things like heat cramps; as you</p> <p>8 mentioned, heat exhaustion; heat stroke.</p> <p>9 There's a lot of different levels of severity of</p> <p>10 heat illnesses.</p> <p>11 Q. Sure.</p> <p>12 A. So Marsing -- when I'm saying Marsing may have</p> <p>13 suffered an injury -- there's a lot of people who I'm</p> <p>14 sure in athletics and work settings around the world who</p> <p>15 have minor heat illnesses who don't report them.</p> <p>16 Q. Sure.</p> <p>17 A. Yeah.</p> <p>18 Q. But I mean, it's very common for individuals that</p> <p>19 are working outside in the heat to maybe feel some</p> <p>20 light-headedness, dizziness, what have you.</p> <p>21 And isn't that telling you as an individual that,</p> <p>22 Hey, I need to take a break. I need to get in the</p> <p>23 shade. I need to be doing something different and get</p> <p>24 out of the heat. Right?</p> <p>25 A. Oh, I think it's great if you can use that as an</p>
<p style="text-align: right;">Page 83</p> <p>1 Q. They know if they were out drinking the night</p> <p>2 before?</p> <p>3 A. Yeah. I didn't know if you were talking about</p> <p>4 while someone's having a heat stroke. The answer would</p> <p>5 definitely be no.</p> <p>6 But if you're talking about in general,</p> <p>7 obviously, yes.</p> <p>8 Q. Right. What I'm trying to find out is, so you</p> <p>9 can have an individual -- if somebody feels -- I think</p> <p>10 you referred to Mr. Marsing -- maybe he said that he</p> <p>11 felt a little dizzy or what have you. We know he</p> <p>12 certainly didn't seek medical attention.</p> <p>13 He didn't have an injury, while he may say that</p> <p>14 it was hot and he felt a little dizzy.</p> <p>15 Just because a person is in the heat, might feel</p> <p>16 a little dizzy, they want to take a break; that doesn't</p> <p>17 mean that they suffered a heat stroke, does it?</p> <p>18 A. Oh, no, no. Yeah, so to clarify, he may have had</p> <p>19 an injury that day. Just because he didn't report it</p> <p>20 doesn't mean he didn't have a heat illness.</p> <p>21 But there's many different kinds of heat</p> <p>22 illnesses. So I agree with you that he did not have a</p> <p>23 heat stroke.</p> <p>24 Q. Right, or heat exhaustion?</p> <p>25 A. Right. So, like, he could have possibly suffered</p>	<p style="text-align: right;">Page 85</p> <p>1 early warning sign.</p> <p>2 So there's two. You can use it as an early</p> <p>3 warning sign for yourself to make modifications to</p> <p>4 protect yourself.</p> <p>5 But then also the work setting, if you have</p> <p>6 people who are experiencing this; that's also a great</p> <p>7 early warning sign that this may soon affect other</p> <p>8 employees or, you know, is something to be aware of.</p> <p>9 Q. How do you make the distinction if you have, for</p> <p>10 example, one individual that says: I'm feeling a little</p> <p>11 bit dizzy or what have you because of the heat. But you</p> <p>12 have 60 other people on that are working that do not?</p> <p>13 A. That's a good question. Same --</p> <p>14 MR. COX: Doug, excuse me.</p> <p>15 Form and foundation.</p> <p>16 THE WITNESS: So I guess a similar question</p> <p>17 like, you know, the football field. One person</p> <p>18 has a heat stroke one day and the 99 others</p> <p>19 don't.</p> <p>20 BY MR. SCHMITT:</p> <p>21 Q. Right.</p> <p>22 A. That's a good question. But heat stroke, you</p> <p>23 know, doesn't thankfully affect large numbers of people</p> <p>24 at the same time. And it's just on a given day, why is</p> <p>25 a particular person affected? We don't really know that</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 86</p> <p>1 for sure.</p> <p>2 But you had people who had -- you know, who were</p> <p>3 struggling or had issues in the heat on the previous</p> <p>4 days. And you definitely have intense exercise. And</p> <p>5 you definitely have hot conditions.</p> <p>6 And you have a guy, Guillermo -- based on</p> <p>7 everything I read -- never had an issue in the heat</p> <p>8 before and is a good, solid worker. So if he's</p> <p>9 struggling during that morning -- You know, you have</p> <p>10 reviewed all of the things that Union Pacific has in</p> <p>11 place. And I agree with you that they have those items</p> <p>12 in place. But they weren't all implemented on that</p> <p>13 particular day.</p> <p>14 Q. Which ones weren't?</p> <p>15 A. For instance, they didn't have a cooling station</p> <p>16 near Guillermo while he was working.</p> <p>17 Q. They had air-conditioned trucks.</p> <p>18 A. I know. But air conditioning for someone</p> <p>19 suffering a heat strokes, the cooling rates are</p> <p>20 nonexistent for air conditioning versus if you had,</p> <p>21 like, you know, more aggressive cooling modalities.</p> <p>22 Just giving an example.</p> <p>23 Q. Okay.</p> <p>24 A. Another example would be you tell people to look</p> <p>25 out for each other. But I don't think Guillermo had</p>	<p style="text-align: right;">Page 88</p> <p>1 warranted he be removed from the job site?</p> <p>2 A. Well, it was his status going into the truck that</p> <p>3 I recommend being warranting. Because he's now -- he</p> <p>4 worked, struggled; worked, struggled. So now that's --</p> <p>5 that's enough to say something's up?</p> <p>6 What's unique for Guillermo this day? We haven't</p> <p>7 had a problem with Guillermo in the last whatever --</p> <p>8 20 or 30 days. Today he can't get through the morning.</p> <p>9 And collectively there's a lot of, kind of,</p> <p>10 X-factors that you're looking at here. You know, a</p> <p>11 really hard Friday in the heat, first day he moved</p> <p>12 there. So that's just an incredibly stressful day from,</p> <p>13 like, a heat physiology perspective.</p> <p>14 And another hard workday on Saturday. So two</p> <p>15 hard, long workdays.</p> <p>16 And then Sunday you're presented with heat again</p> <p>17 and work. And he's struggling there in the morning. He</p> <p>18 can't even get out in the morning. He struggled -- he</p> <p>19 went back to work -- work, struggle; work, struggle.</p> <p>20 That's enough that I would think you'd have someone out;</p> <p>21 or at least have -- you know, change the work that he's</p> <p>22 doing; keep a really close eye on him.</p> <p>23 You know, it just didn't seem like people were</p> <p>24 really attentive to him.</p> <p>25 There's no indication that he was a wimp or was,</p>
<p style="text-align: right;">Page 87</p> <p>1 supervisors near him that morning that were looking out</p> <p>2 for him because no one would have had him continue</p> <p>3 working.</p> <p>4 If he was already struggling, he's extremely</p> <p>5 susceptible to future problems that day. So I would</p> <p>6 have not had him go back. I would have sent him back in</p> <p>7 and say: You know what? Why don't you rest up because</p> <p>8 you've now fallen out a couple of times.</p> <p>9 We didn't have to get to the point of the last</p> <p>10 time.</p> <p>11 Q. So at what point do you believe Mr. Herrera</p> <p>12 should have been taken and removed from the job site?</p> <p>13 A. Well, without a question, when he first took a</p> <p>14 break, returned to work, took a break again -- this is</p> <p>15 the second time right now. And then he was kind of -- I</p> <p>16 don't know if the word's forced or pressured to go back</p> <p>17 to work.</p> <p>18 At that point I'm thinking that it probably would</p> <p>19 have been a good day to call it a day, because he's now</p> <p>20 struggled two different times.</p> <p>21 Q. At the point -- the second break meaning when he</p> <p>22 gets out of the air-conditioned truck?</p> <p>23 A. Yes.</p> <p>24 Q. What was Mr. Herrera's status then at the time</p> <p>25 that he left that air-conditioned truck that you believe</p>	<p style="text-align: right;">Page 89</p> <p>1 you know, making up any of these things. So it seems</p> <p>2 like he was genuinely struggling.</p> <p>3 Q. Well, I mean, you certainly agree that if someone</p> <p>4 says: I'm feeling a little hot. I want to take a break</p> <p>5 and go sit in the shade for a while and cool down;</p> <p>6 that's certainly appropriate?</p> <p>7 A. I don't think it was a little hot, though. I</p> <p>8 mean, I think he legitimately -- if he was a little hot,</p> <p>9 I think he would have kept going. I mean, I think he</p> <p>10 was legitimately really, like -- he felt like he</p> <p>11 couldn't continue working. That's a big deal.</p> <p>12 Q. At which point?</p> <p>13 A. Any of those points. When he first sat down on</p> <p>14 his own, and then he goes to the truck on his own; both</p> <p>15 of those times he felt he can't continue working. So</p> <p>16 that's pretty important.</p> <p>17 Q. Okay. Well, if Mr. Herrera felt he couldn't</p> <p>18 continue working, then why did he continue working?</p> <p>19 A. I don't know. I said -- I wasn't there. So I</p> <p>20 said that there is colleagues who say that maybe he was</p> <p>21 kind of pressured back to work.</p> <p>22 But like I said, I wasn't there. So I don't know</p> <p>23 what the decision was.</p> <p>24 But I tell you at this point we don't even -- for</p> <p>25 future reference -- for UP and any company -- you don't</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 90</p> <p>1 want to have it always be up to the person. You know,</p> <p>2 if they say, I can work, and you're looking at the</p> <p>3 person and they have a broken arm -- you see the arm</p> <p>4 pointed in the other direction -- and they say, I can</p> <p>5 continue working; you know what? They're not going to</p> <p>6 have you work. I'm going to bring you in and we're</p> <p>7 going to take a look at you.</p> <p>8 Because that's just what we have to do sometimes.</p> <p>9 We can't always think that that person is going to give</p> <p>10 the best advice for themselves.</p> <p>11 Q. See, what I'm trying to determine is how do you</p> <p>12 make the distinction on which individual needs to be</p> <p>13 taken from the job site and which doesn't?</p> <p>14 Let's say you have an individual that says: I</p> <p>15 need to take a break here mid-morning around 10:30 or</p> <p>16 so. I need to go stand in the shade.</p> <p>17 He stands in the shade for a while, takes a</p> <p>18 break, and then comes back.</p> <p>19 A couple hours later he sits in an</p> <p>20 air-conditioned truck for 30, 60 minutes and comes back.</p> <p>21 But throughout this time he's not exhibiting any</p> <p>22 confusion. He doesn't say to anyone that he has</p> <p>23 diarrhea, nauseous, dizziness, light-headedness,</p> <p>24 confusion; none of the above. He's simply taking breaks</p> <p>25 and he's coming back.</p>	<p style="text-align: right;">Page 92</p> <p>1 mean I just have the flu, I have a cold, what have you.</p> <p>2 Right? I mean, there could be many other causes; true?</p> <p>3 MR. COX: Form and foundation.</p> <p>4 Argumentative.</p> <p>5 THE WITNESS: Yeah. I don't doubt for a</p> <p>6 second that some of those signs and symptoms</p> <p>7 could be due to another medical condition.</p> <p>8 As I said, I'm just taking this as a whole</p> <p>9 when someone's been doing exercise -- hard</p> <p>10 exercise for repetitive days in a row and he's</p> <p>11 in the heat. And all that together with these</p> <p>12 signs and symptoms, my thought process is that</p> <p>13 let's look into this. It's potentially a</p> <p>14 concern; and it's very likely a heat illness.</p> <p>15 BY MR. SCHMITT:</p> <p>16 Q. All of these signs and symptoms that he had --</p> <p>17 that he claims that he had could have been due to other</p> <p>18 conditions?</p> <p>19 A. Well, theoretically, yes.</p> <p>20 Q. Right.</p> <p>21 MR. SCHMITT: Let's go head and take a</p> <p>22 break.</p> <p>23 (Recess taken from 10:12 a.m. to 10:24 a.m.)</p> <p>24 ---</p> <p>25</p>
<p style="text-align: right;">Page 91</p> <p>1 A. If someone's just taking breaks and exhibiting no</p> <p>2 signs and symptoms; I mean, I would obviously think they</p> <p>3 could go back to work.</p> <p>4 But, I mean, obviously if you investigate, you</p> <p>5 know, the scene. If the person is just taking a break</p> <p>6 because they're just tired, then they can keep working.</p> <p>7 Q. Right.</p> <p>8 A. But, I mean, I think he reported -- he's</p> <p>9 exhibiting signs and symptoms of a heat illness.</p> <p>10 Q. All of these items that we discussed earlier?</p> <p>11 A. Yeah. I'm not saying all of them were every</p> <p>12 moment. But all of them at some point were reported.</p> <p>13 Q. Well, that he claims that he has.</p> <p>14 A. Well, and other people around him report that he</p> <p>15 exhibits some of these items or that he's telling them</p> <p>16 he's having these items.</p> <p>17 I don't -- there's no reason to believe that</p> <p>18 he's, like, making them up in the morning. You know</p> <p>19 what I mean?</p> <p>20 Q. Well, sure. Here's what I'm trying to figure</p> <p>21 out, is you could have someone show up to a job site or</p> <p>22 anyplace, and we could be sitting in this</p> <p>23 air-conditioned room; and I can say, Doctor, I'm feeling</p> <p>24 a little nausea, a little dizziness, what have you.</p> <p>25 It doesn't mean it's due to the heat. It might</p>	<p style="text-align: right;">Page 93</p> <p>1 BY MR. SCHMITT:</p> <p>2 Q. Doctor, you were discussing your opinion that</p> <p>3 Mr. Herrera suffered an exertional heat stroke.</p> <p>4 Did you review any of the medical records from</p> <p>5 his admission at the Onaga Hospital that day?</p> <p>6 A. Yes.</p> <p>7 Q. And did you note what was the diagnosis that was</p> <p>8 made by the emergency room professionals at Onaga</p> <p>9 Community Hospital when they actually saw Mr. Herrera</p> <p>10 that day?</p> <p>11 A. Yeah. I was just going to pull up something</p> <p>12 here.</p> <p>13 So I'm just citing -- citing 166 on Page 30.</p> <p>14 (Pause.)</p> <p>15 I might not have the page.</p> <p>16 So his diagnosis was heat exhaustion. It was</p> <p>17 Page 28. I apologize.</p> <p>18 Q. And is that important to you that the doctors</p> <p>19 that actually saw him that day, the emergency room</p> <p>20 trained personnel, diagnosed him with heat exhaustion</p> <p>21 not heat stroke?</p> <p>22 A. Well, it's certainly something I took into</p> <p>23 consideration.</p> <p>24 A lot of medical providers in emergency rooms and</p> <p>25 like EMT-EMS people will often misdiagnosis a heat</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 94</p> <p>1 stroke as heat exhaustion, unfortunately.</p> <p>2 And in this case you have the additional caveat</p> <p>3 that so much time had passed that his body temperature</p> <p>4 is not reflective of what happened, obviously, at 1:30</p> <p>5 when he initially was called for medical care.</p> <p>6 Q. Okay.</p> <p>7 A. But in that medical report on the hospital that</p> <p>8 day, the medical providers did say that the patient was</p> <p>9 confused in addition to other items that are consistent</p> <p>10 with heat stroke.</p> <p>11 And then given the time that elapsed from when he</p> <p>12 was -- initially sought -- or when his supervisor</p> <p>13 initially sought care for him, those things collectively</p> <p>14 make me think he had a heat stroke.</p> <p>15 Q. The confusion and other things, to use your term,</p> <p>16 that were noted with Mr. Herrera at the time that he was</p> <p>17 seen at Onaga can also be consistent with heat</p> <p>18 exhaustion?</p> <p>19 A. Okay. Well, that's a good point. With heat</p> <p>20 exhaustion you don't usually have mental compromise --</p> <p>21 especially mental compromise that would last so many</p> <p>22 hours beyond the incident. So that would be quite rare.</p> <p>23 Q. So how long can -- well, I think you said</p> <p>24 "usually." So you can have mental compromise, first of</p> <p>25 all, with heat exhaustion?</p>	<p style="text-align: right;">Page 96</p> <p>1 recognized and universal guidelines in order to apply</p> <p>2 whatever number it is to the patient?</p> <p>3 A. It's one of the -- it's obviously subjective.</p> <p>4 But it's one of the inventories that's used, yes.</p> <p>5 Q. All right. And, for example, you might typically</p> <p>6 see a Glasgow Coma Scale for EMT people that arrive at</p> <p>7 an accident scene?</p> <p>8 A. Oh, yeah, yeah. I mean, you'll often see EMT-EMS</p> <p>9 when they're bringing in a patient to the emergency</p> <p>10 room, that's one of the first things they'll report is a</p> <p>11 GCS of, like, maybe what they saw at first and what it</p> <p>12 is now; so you can see either someone's getting better</p> <p>13 or worse in that progression.</p> <p>14 Q. And 15 is the highest you can get, meaning</p> <p>15 they're normal?</p> <p>16 A. Yes. There's three different components of a</p> <p>17 Glasgow Coma Scale. One is ranked out of six, one's out</p> <p>18 of four, and one's out of five. And so they add up to</p> <p>19 15. And the lowest of each is a one. That's why the</p> <p>20 lowest score you can get is a 3.</p> <p>21 Q. What's the significance of Mr. Herrera having a</p> <p>22 Glasgow Coma Scale in the emergency room of a 14?</p> <p>23 A. So that would indicate that he is doing pretty</p> <p>24 well at that point.</p> <p>25 Remember the Glasgow Coma Scale is not like it's</p>
<p style="text-align: right;">Page 95</p> <p>1 A. Possibly. And it would be usually quite mild and</p> <p>2 usually dissipates quite rapidly. So it usually</p> <p>3 would -- you know, within 15 minutes, 30 minutes it</p> <p>4 would be gone. And even if it's there, it would be</p> <p>5 mild.</p> <p>6 So as an example of a couple of things that were</p> <p>7 noted upon admission; they said he was lethargic, not</p> <p>8 oriented to time, unable to orient purpose, slowed</p> <p>9 speech, confused, dizzy, weak.</p> <p>10 Those are some of the things -- and muscle</p> <p>11 weakness. Those are just some of the things that were</p> <p>12 on his report upon entering.</p> <p>13 Q. What's a Glasgow Coma Scale?</p> <p>14 A. The Glasgow Coma Scale is an inventory that's</p> <p>15 used in emergency settings that can range from a score</p> <p>16 of 3 to 15. 15 is a max score that would be kind of</p> <p>17 like a normal response for like us sitting here right</p> <p>18 now, hopefully.</p> <p>19 A 3 would be unable to orient to place and</p> <p>20 respond to commands, things like that.</p> <p>21 Q. Is the Glasgow Coma Scale something that is used</p> <p>22 routinely by medical professionals in evaluating the</p> <p>23 status of a patient?</p> <p>24 A. Yes. I'd say it's very common.</p> <p>25 Q. All right. And it's a standard that is -- has</p>	<p style="text-align: right;">Page 97</p> <p>1 a high end. It's really a cursory look to see if</p> <p>2 someone's, you know, like after someone has a gunshot or</p> <p>3 someone is losing blood or going into shock; things like</p> <p>4 that.</p> <p>5 So it's a general indicator that at that point</p> <p>6 he's stable and he's able to communicate with the</p> <p>7 medical provider.</p> <p>8 Q. Well, but there's three different areas that are</p> <p>9 being assessed?</p> <p>10 A. Correct.</p> <p>11 Q. And those three areas are?</p> <p>12 A. It's verbal, your eyes -- visual, and cognitive</p> <p>13 or motor function.</p> <p>14 (Off the record.)</p> <p>15 THE WITNESS: So I definitely think he's</p> <p>16 stable at that point. I don't think we're</p> <p>17 refuting that at this point.</p> <p>18 But, I mean, obviously, remember -- I don't</p> <p>19 know -- 15, 30 minutes prior to that Glasgow</p> <p>20 Coma Scale getting obtained his supervisors</p> <p>21 decide to bring him to the hospital. So they're</p> <p>22 not happy that he's getting better. And they</p> <p>23 decide to bring him across the street or nearby,</p> <p>24 wherever the hospital was.</p> <p>25</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 98</p> <p>1 BY MR. SCHMITT:</p> <p>2 Q. Well, isn't the evidence that it was Mr. Herrera</p> <p>3 asked to go to the hospital, not the supervisor. The</p> <p>4 supervisors repeatedly asked him: Do you want to go to</p> <p>5 the hospital?</p> <p>6 A. Yes.</p> <p>7 Q. He says, No.</p> <p>8 He then at the end changes and says: Yeah, I</p> <p>9 think I want to go. And they immediately took him.</p> <p>10 That's the evidence.</p> <p>11 A. Right, yes, yes.</p> <p>12 MR. COX: Form and foundation. Omits</p> <p>13 testimony.</p> <p>14 THE WITNESS: So Guillermo volunteered that</p> <p>15 he'd like to go to the hospital at that point.</p> <p>16 BY MR. SCHMITT:</p> <p>17 Q. Right.</p> <p>18 A. Okay. At earlier times he said hotel or wherever</p> <p>19 he was staying or other things like that.</p> <p>20 Q. Correct.</p> <p>21 A. Yeah. I told you when people are having a heat</p> <p>22 stroke -- what he says, it's not that relevant for me</p> <p>23 just because I've lived through -- I've treated 225 heat</p> <p>24 strokes. And I've had people completely unconscious to</p> <p>25 people who I was able to have normal conversations with.</p>	<p style="text-align: right;">Page 100</p> <p>1 five hours after your incident in the heat,</p> <p>2 that's a big deal.</p> <p>3 BY MR. SCHMITT:</p> <p>4 Q. Well, it's in the admission assessment by a</p> <p>5 nurse, Ashley Bean, R.N.; correct?</p> <p>6 And in the same paragraph where she says patient</p> <p>7 is confused, this nurse also says Glasgow Coma Scale of</p> <p>8 14; right?</p> <p>9 A. Yeah.</p> <p>10 Q. So wouldn't that appear to you to be a little bit</p> <p>11 inconsistent?</p> <p>12 A. Not necessarily. I mean, she gave him one point</p> <p>13 off on one of the three domains. And that would make</p> <p>14 sense to me.</p> <p>15 You don't have to have a low GCS. You know, that</p> <p>16 doesn't have to be associated with being confused.</p> <p>17 I mean, it's consistent. She says not oriented</p> <p>18 to time, unable to orient purpose, and is confused.</p> <p>19 I mean -- but some of his basic motor functions,</p> <p>20 his ability to verbally respond and be able to visually</p> <p>21 respond; I mean, they were there. So thankfully --</p> <p>22 I mean, this could have been a lot worse,</p> <p>23 obviously. I mean, he could have, you know --</p> <p>24 Q. Sure. But in looking at these records, though,</p> <p>25 in regards to the actual diagnosis of what this patient</p>
<p style="text-align: right;">Page 99</p> <p>1 Q. So if you assume that Mr. Herrera as -- that he</p> <p>2 claims during the day he was having confusion, he was</p> <p>3 completely out of it, maybe -- he uses a term almost</p> <p>4 comatose, unconscious; pretty extreme words.</p> <p>5 But then he goes to the hospital and he's</p> <p>6 assessed with a Glasgow Coma Scale of 14.</p> <p>7 Wouldn't that indicate to you that he was</p> <p>8 improving throughout the day; and he's actually better</p> <p>9 by the time he gets to the hospital than what he was</p> <p>10 earlier?</p> <p>11 MR. COX: Form and foundation.</p> <p>12 THE WITNESS: No, I think his temperature</p> <p>13 gradually came through through the course of the</p> <p>14 day and the couple hours he was at the cooling</p> <p>15 station or however long he was there.</p> <p>16 So that decrease in temperature and the fact</p> <p>17 that he was now resting for a while; you know, I</p> <p>18 certainly think he stabilized. And I think the</p> <p>19 GCS score backs that up.</p> <p>20 But, I mean, they still note at the hospital</p> <p>21 that he's confused. I mean, that's not him --</p> <p>22 not Guillermo saying he's confused. They're</p> <p>23 assessing that he's confused.</p> <p>24 So that's really relevant. If a medical</p> <p>25 provider says you're confused and it's four or</p>	<p style="text-align: right;">Page 101</p> <p>1 has, a nurse can make all sorts of observations: I</p> <p>2 think he's confused, he doesn't appear to have this, he</p> <p>3 doesn't appear to have that.</p> <p>4 But when somebody does a medical assessment and</p> <p>5 diagnosis under a Glasgow Coma Score -- which is a</p> <p>6 medically-significant test that's performed and renders</p> <p>7 a specific diagnosis -- that he has a 14 out of a 15 --</p> <p>8 which is perfect -- doesn't that appear to you to be a</p> <p>9 more accurate assessment than simply these generalized</p> <p>10 statements from a nurse that: Well, he has some</p> <p>11 confusion, he has this, he has that?</p> <p>12 A. Well, I wouldn't --</p> <p>13 MR. COX: Form and foundation.</p> <p>14 THE WITNESS: -- I don't want to discredit</p> <p>15 her. I don't think that's fair. I think</p> <p>16 they're both accurate.</p> <p>17 She did a GCS, it's 14. And she also noted</p> <p>18 he's confused. I don't think they have to be</p> <p>19 mutually exclusive of each other.</p> <p>20 BY MR. SCHMITT:</p> <p>21 Q. All right. His rectal temperature at the time at</p> <p>22 the hospital was what?</p> <p>23 A. I have it. 99.6.</p> <p>24 Q. Yes, 99.6. I'll just show you.</p> <p>25 And I know you're looking it at a summary --</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 102</p> <p>1 A. Yeah, that's fair. Yeah, that makes sense to me.</p> <p>2 Q. Right. And you're assuming that how much time</p> <p>3 has passed from the time that he departs the job site</p> <p>4 until he arrives at the hospital?</p> <p>5 A. I have to check. I feel like it was 4:30 that</p> <p>6 he's admitted to the hospital, ballpark.</p> <p>7 Q. Right.</p> <p>8 A. And I -- like I said, I was estimating that it</p> <p>9 was around 1:30 that the process begins to get him out</p> <p>10 of the job site.</p> <p>11 Q. So if you assume three hours had passed from the</p> <p>12 time they depart the job site to arriving at the</p> <p>13 hospital with a rectal temperature of 99.6; what do you</p> <p>14 believe the rectal temperature would have been, say, at</p> <p>15 1:30?</p> <p>16 A. That is way too much to estimate. I would risk</p> <p>17 my -- my professional stature if I threw a number out.</p> <p>18 That's why I didn't do it in this case.</p> <p>19 When I have more definitive information, I do it.</p> <p>20 So in some cases, if he -- someone gets to the hospital</p> <p>21 and rectal temp is 103.8; and I know 24 minutes earlier</p> <p>22 they collapsed; and in 21 of those minutes they did cold</p> <p>23 water immersion; I could give you a better idea of what</p> <p>24 the initial temp was because I know the cooling rates.</p> <p>25 I know the person's -- You know what I mean? Like</p>	<p style="text-align: right;">Page 104</p> <p>1 minute. That's my best estimate.</p> <p>2 Q. So if we put it in Fahrenheit -- I think here</p> <p>3 they're measuring probably this rectal temperature in</p> <p>4 Fahrenheit, 98.6?</p> <p>5 A. Yeah, that one -- Yeah. So that's Fahrenheit,</p> <p>6 yeah.</p> <p>7 Q. So Fahrenheit, just regular cooling, somebody</p> <p>8 sitting in an air-conditioned vehicle, drinking cold</p> <p>9 water?</p> <p>10 A. It would be probably just a little higher than</p> <p>11 that in the context of those body temperatures.</p> <p>12 Probably like .06 or .07 degrees Fahrenheit.</p> <p>13 Q. So over, let's say, an hour, how much -- or</p> <p>14 30 minutes, what would be the cooling -- rate of</p> <p>15 cooling?</p> <p>16 A. It's -- Like I said, we don't know for sure</p> <p>17 because it's -- I mean, in the air conditioning --</p> <p>18 I didn't get great detail on exactly what he did</p> <p>19 in the cooling station.</p> <p>20 So -- but in that three-hour stretch, even if you</p> <p>21 just said he was .05 or .07 degrees Fahrenheit per</p> <p>22 minute -- I mean, that's about what you would do, I</p> <p>23 think.</p> <p>24 Give me one second. (Pause.)</p> <p>25 Seven, that's like, what? 180 minutes? So, I</p>
<p style="text-align: right;">Page 103</p> <p>1 there's things I could figure out.</p> <p>2 There's too many X-factors here to really give</p> <p>3 you an accurate information.</p> <p>4 Q. If you have whole body cold water immersion,</p> <p>5 what's the rate of cooling?</p> <p>6 A. If it's done well, it's about .2 degrees Celsius</p> <p>7 per minute; which is ballpark of, like, .35 degrees</p> <p>8 Fahrenheit per minute.</p> <p>9 Q. So over an hour would be what?</p> <p>10 A. Well, an hour's a long time. So, I mean, like .2</p> <p>11 degrees Celsius per minute in cold water immersion, for</p> <p>12 instance, is a degree Celsius every five minutes.</p> <p>13 And then -- so when we cool heat stroke victims</p> <p>14 with cold water immersion, it's usually just 15 to 20</p> <p>15 minutes because that usually gets us down three degrees</p> <p>16 Celsius; which is -- if you put it in Fahrenheit</p> <p>17 context, that would be, like, going from 108 to 102.</p> <p>18 Q. What would be the rate of cooling for an</p> <p>19 individual that's sitting in an air-conditioned vehicle</p> <p>20 with the air conditioning on high?</p> <p>21 A. So that's never been done in a research study.</p> <p>22 Q. All right.</p> <p>23 A. So I can speculate, like, passive cooling that's</p> <p>24 just done in, you know, like thermoneutral environments.</p> <p>25 Probably around .03 or .04 degrees Celsius per</p>	<p style="text-align: right;">Page 105</p> <p>1 mean, obviously, the cooling is only going -- even if</p> <p>2 it's just .05 -- the cooling, he probably -- he was</p> <p>3 probably back down to resting, I mean, probably, like,</p> <p>4 in the 90-minute range or two-hour range after that 1:30</p> <p>5 mark.</p> <p>6 If you did 120 minutes -- I mean, 120 minutes</p> <p>7 times .05; that would be two hours of cooling. A .05</p> <p>8 would be ballpark of what you'd see passive cooling in a</p> <p>9 cold environment. That would take someone down six</p> <p>10 degrees.</p> <p>11 That just gives you just a general sense of if he</p> <p>12 was around 100 when he went in, that's ballpark of 4:30.</p> <p>13 Q. And in order to have heat stroke, what</p> <p>14 temperature do you have to have?</p> <p>15 A. I mean, I usually define it as 105 or greater.</p> <p>16 Most people -- some people say 104 or greater. I'm a</p> <p>17 little more conservative. I usually put it up a little</p> <p>18 higher than most people.</p> <p>19 Q. Okay. So you don't really have an estimate on</p> <p>20 what it was at the job site?</p> <p>21 A. You can't -- I don't think anybody could.</p> <p>22 Q. Understood.</p> <p>23 A. There's just too many factors to consider that</p> <p>24 are not fair to -- I don't think it would be accurate to</p> <p>25 share.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 106</p> <p>1 Q. What about in regards to any of the lab work that</p> <p>2 was done? Did you evaluate any of the lab work at the</p> <p>3 Onaga Hospital?</p> <p>4 A. I did, yes.</p> <p>5 Q. What did you find to be significant in regards to</p> <p>6 the diagnosis of whether he has a heat stroke or</p> <p>7 something else?</p> <p>8 A. So the results there -- the initial results that</p> <p>9 happen there do not have some of the things we</p> <p>10 consistently see with a heat stroke.</p> <p>11 Q. Which ones?</p> <p>12 A. Just -- there's a bunch of them. But like, for</p> <p>13 instance, the liver enzymes, ALT and AST.</p> <p>14 Q. And his results were inconsistent with a heat</p> <p>15 stroke?</p> <p>16 A. Yes.</p> <p>17 Q. Right. Which other results were inconsistent</p> <p>18 with a heat stroke?</p> <p>19 A. Those are the ones I noted right now that I can</p> <p>20 recall.</p> <p>21 Q. What about his potassium being low; what's the</p> <p>22 significance of that?</p> <p>23 A. There's a lot of different reasons someone's</p> <p>24 potassium could be low. So I don't usually -- we don't</p> <p>25 usually look at that as a heat stroke indicator as much.</p>	<p style="text-align: right;">Page 108</p> <p>1 they survive -- they're going back to resting levels</p> <p>2 again.</p> <p>3 So -- this is nothing to do with the people that</p> <p>4 you're defending -- I would have preferred him stay in</p> <p>5 the hospital that night and be observed and be continued</p> <p>6 to be evaluated, and then be released the next day</p> <p>7 somewhere around noontime.</p> <p>8 Because you'll notice the person on discharge</p> <p>9 recommends that he not work the next day. You saw that?</p> <p>10 Q. Right, I did.</p> <p>11 A. All right. So I think it would have been a much</p> <p>12 better situation to make sure he didn't work the next</p> <p>13 day by -- I know he didn't work -- but just to make sure</p> <p>14 by just keeping him in the facility. That's what I</p> <p>15 would have recommended.</p> <p>16 Q. All right.</p> <p>17 A. Because then you could have checked those items</p> <p>18 that I mentioned and see if they're going up or not.</p> <p>19 Because if they're going up, then you want to -- like,</p> <p>20 they're going to -- an awesome opportunity.</p> <p>21 So I fault some of the care that was received</p> <p>22 there as well.</p> <p>23 Q. Can all of the findings and the clinical</p> <p>24 presentation that Mr. Herrera had at the time of his</p> <p>25 admission to the Onaga Hospital -- can they be</p>
<p style="text-align: right;">Page 107</p> <p>1 But the things to consider with ALT and AST is</p> <p>2 that usually takes some time to climb. So I would have</p> <p>3 expected it to be elevated because I think he -- Do you</p> <p>4 know what time it was taken?</p> <p>5 Q. Let me just hand you the original records.</p> <p>6 A. I'm sorry, I was only asking for the favor</p> <p>7 because my eyesight is really bad because I can't see</p> <p>8 this right now.</p> <p>9 (Off the record.)</p> <p>10 THE WITNESS: Yeah, I don't know -- if you</p> <p>11 could just tell me -- I don't know if it's time</p> <p>12 stamped. I don't know if it was right after he</p> <p>13 came in or not.</p> <p>14 BY MR. SCHMITT:</p> <p>15 Q. (Pause.) Well, I think it's saying 1650.</p> <p>16 A. That makes sense.</p> <p>17 Q. So 4:50 p.m.</p> <p>18 A. So right after arrival.</p> <p>19 Q. So about 15, 20 minutes after arrival.</p> <p>20 A. Right. So I personally would have expected some</p> <p>21 of those to start to be elevated at that time.</p> <p>22 But the real time you see the elevations of those</p> <p>23 are, like, 12 to 24 hours later. In fact, some of</p> <p>24 those, they'll peak out at, like, 48 hours later. And</p> <p>25 then you'll start to see the gradual going back -- if</p>	<p style="text-align: right;">Page 109</p> <p>1 consistent with heat exhaustion?</p> <p>2 A. The mental compromise surprises me. The other --</p> <p>3 the GCS finding and the blood work would be consistent</p> <p>4 with heat exhaustion at that moment.</p> <p>5 But like I said, serial measures would really</p> <p>6 allow us to have a better indicator. So if we did that</p> <p>7 again, like, four or six hours later; that would be</p> <p>8 really helpful.</p> <p>9 Q. And with the mental compromise, that can be also</p> <p>10 consistent with heat exhaustion; although I think it's</p> <p>11 your testimony that it would more likely or typically be</p> <p>12 more associated with a heat stroke is what you're</p> <p>13 saying. Is that right?</p> <p>14 A. No -- well, let me clarify. So I've never seen</p> <p>15 mental compromise with heat exhaustion that's lasted</p> <p>16 that long. That would be a unique first time for me.</p> <p>17 So I have seen it mildly acutely within 15 to</p> <p>18 30 minutes after an incident.</p> <p>19 Q. Okay. And a "mental compromise" being</p> <p>20 specifically what, his statement of confusion?</p> <p>21 A. Well, I think you just noted before the nurse had</p> <p>22 said: Patient is confused --</p> <p>23 Q. Right.</p> <p>24 A. -- and not oriented to time, unable to orient</p> <p>25 purpose. And speech is slow. Patient lethargic.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 110</p> <p>1 Q. Well, you can be lethargic from a lot of reasons;</p> <p>2 right?</p> <p>3 A. You can be all those things from a lot of</p> <p>4 reasons.</p> <p>5 Q. Right.</p> <p>6 A. I'm just taking this as a collective day. The</p> <p>7 guy was exercising in the heat, struggled a few times,</p> <p>8 unable to continue, seeks medical help. So those are</p> <p>9 just the things I'm processing.</p> <p>10 Q. All right.</p> <p>11 A. I know that other things can cause that as well.</p> <p>12 Q. So the objective testing, all of the lab work,</p> <p>13 things that were done at the time were certainly</p> <p>14 consistent with heat exhaustion; right?</p> <p>15 A. Yes.</p> <p>16 Q. So is there anything else, Doctor, that leads you</p> <p>17 to form an opinion in that Mr. Herrera suffered an</p> <p>18 exertional heat stroke on July 26th that we haven't</p> <p>19 discussed?</p> <p>20 A. Well, the long-term complications would be</p> <p>21 consistent with heat stroke.</p> <p>22 Q. All right. Tell me about, then, what you're</p> <p>23 relying on for the long-term complications.</p> <p>24 A. So which documents, is that what you mean?</p> <p>25 Q. Well, you're saying Mr. Herrera suffered</p>	<p style="text-align: right;">Page 112</p> <p>1 Mountain States Physical & Hand Therapy Functional</p> <p>2 Capacity Evaluation.</p> <p>3 Q. Yes.</p> <p>4 A. This just, I think, happened in the last month --</p> <p>5 ballpark.</p> <p>6 Q. Okay.</p> <p>7 A. So they have a report here. In the end they talk</p> <p>8 about some lasting complications that he has still like</p> <p>9 headaches, dizziness.</p> <p>10 Q. Okay, go slow.</p> <p>11 A. Sure.</p> <p>12 Q. So headaches. You believe Mr. Herrera's</p> <p>13 headaches are caused by a heat stroke?</p> <p>14 A. I said they can be. He didn't have issues -- I'm</p> <p>15 trying to look at Guillermo the day before the heat</p> <p>16 stroke versus him now. And he never had issues of</p> <p>17 dizziness; light-headedness; struggling with exercise in</p> <p>18 the heat; you know, getting fatigued more quickly.</p> <p>19 Those are things that certainly have -- many of</p> <p>20 the cases that we track after people have heat stroke</p> <p>21 are pretty common for long-term complications after a</p> <p>22 heat stroke.</p> <p>23 And just to give you an idea, at the Korey</p> <p>24 Stringer Institute we test athletes, laborers, and</p> <p>25 soldiers. After they've had heat strokes, they'll come</p>
<p style="text-align: right;">Page 111</p> <p>1 long-term complications --</p> <p>2 A. Yes.</p> <p>3 Q. -- and as a result of that, that you believe</p> <p>4 supports your opinion that he suffered heat stroke?</p> <p>5 A. Yes. I was just going to make a note of which</p> <p>6 items I gathered that from.</p> <p>7 Q. Sure. Well, and my question is going to be:</p> <p>8 Which long-term complications do you believe Mr. Herrera</p> <p>9 suffered that were caused by a heat stroke?</p> <p>10 A. Okay. So one would be exercise heat intolerance.</p> <p>11 Q. Can you have exercise heat intolerance with heat</p> <p>12 exhaustion?</p> <p>13 A. No.</p> <p>14 Q. And the exercise heat intolerance is simply</p> <p>15 Mr. Herrera saying he's not doing as well in the heat?</p> <p>16 A. That's correct. I don't -- I don't believe he's</p> <p>17 had, like, any heat testing done.</p> <p>18 Q. Okay.</p> <p>19 A. Someone correct me if I'm wrong, but I don't have</p> <p>20 that.</p> <p>21 Q. What other long-term complications are you</p> <p>22 relying -- do you believe were caused by a heat stroke?</p> <p>23 A. Give me just one second. (Pause.)</p> <p>24 So this is the document that we just said before.</p> <p>25 So this person who did this evaluation -- it was the</p>	<p style="text-align: right;">Page 113</p> <p>1 to us for what we call heat tolerance testing. And we</p> <p>2 do a full workup of their ability to exercise in the</p> <p>3 heat and then also an evaluation of other signs and</p> <p>4 symptoms that they exhibit.</p> <p>5 And we do that for a timeframe after with the</p> <p>6 hopes of them trying to eventually get back to normal</p> <p>7 life and work. But obviously, some people can't do</p> <p>8 that.</p> <p>9 So this is -- what he's exhibiting is consistent</p> <p>10 with what we've seen with other people. I would say I</p> <p>11 was very hopeful when I was first introduced to this</p> <p>12 case in the -- I want to say winter of '16, the very</p> <p>13 first time Jim Cox contacted me, that it was still close</p> <p>14 enough to the incident -- maybe like six months -- that</p> <p>15 I was hopeful that he would still have a chance to make</p> <p>16 a full recovery.</p> <p>17 And now we're getting close to the two-year</p> <p>18 window. And this thing was at the 20-month window.</p> <p>19 That now I'm starting to get worried that these things</p> <p>20 could be permanent.</p> <p>21 Q. Are each of these items that you identified with</p> <p>22 current problems -- headache, dizziness, fatigue -- all</p> <p>23 of those can be due to many other medical reasons?</p> <p>24 A. There's no question.</p> <p>25 Q. All right.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 114</p> <p>1 A. The exercise heat intolerance is not usually -- I</p> <p>2 don't know too many things that cause that besides for</p> <p>3 someone who's compromised from a heat stroke.</p> <p>4 There are some other isolated things; but they</p> <p>5 would have been existent from the day he was born,</p> <p>6 not -- you know, he's obviously had a lot of successful</p> <p>7 days of exercise in the heat prior to this event.</p> <p>8 Q. What would be some of the other causes of having</p> <p>9 exercise heat intolerance?</p> <p>10 A. There's some conditions that cause people to have</p> <p>11 excessive sweating so they can dehydrate a lot faster.</p> <p>12 So they might struggle.</p> <p>13 There's people who don't sweat at all.</p> <p>14 Obviously, you can't cool yourself down. It could be</p> <p>15 very dangerous.</p> <p>16 There's something called malignant hyperthermia,</p> <p>17 which is a genetic condition; where people -- they're</p> <p>18 starting to believe there might be a connectivity with</p> <p>19 more difficulty exercising in the heat.</p> <p>20 So those are examples.</p> <p>21 And there are medications that people take that</p> <p>22 can compromise their heat intolerance.</p> <p>23 Q. Any medications for, let's say, diabetes?</p> <p>24 A. I'd have to look into them carefully. I don't</p> <p>25 know, like, the brand names of all of them.</p>	<p style="text-align: right;">Page 116</p> <p>1 Q. All right. Is there any other basis for your</p> <p>2 opinion that he suffered a heat stroke that we have not</p> <p>3 discussed?</p> <p>4 A. No. I think we've covered it.</p> <p>5 Q. In regards to the MRI imaging post-incident that</p> <p>6 was done -- and we've already discussed that you're not</p> <p>7 a neuroradiologist or a radiologist; right?</p> <p>8 A. That's correct.</p> <p>9 Q. And you wouldn't have the ability or foundation</p> <p>10 to interpret MRI imaging?</p> <p>11 A. Not at all.</p> <p>12 Q. Are you rendering any opinions at all in this</p> <p>13 case, Doctor, in regards to the imaging and what it</p> <p>14 shows and when it would have first been present in</p> <p>15 Mr. Herrera?</p> <p>16 A. No. I'm very smart; I know that's outside of my</p> <p>17 area.</p> <p>18 Q. Okay. What about any of the cardiology issues in</p> <p>19 this case? Mr. Herrera had a PFO. Are you rendering</p> <p>20 any opinions about that?</p> <p>21 A. No.</p> <p>22 Q. All right, or what caused -- or what relationship</p> <p>23 it may have had to any of the current issues that he</p> <p>24 suffers?</p> <p>25 A. I have no opinion on that. I know if you have an</p>
<p style="text-align: right;">Page 115</p> <p>1 So usually the family are things that -- anything</p> <p>2 that revs up your metabolism.</p> <p>3 So for instance, ADHD medications, mood-altering</p> <p>4 medications.</p> <p>5 ADHD is a good one only because I know there's</p> <p>6 research in that particular one that people's body</p> <p>7 temperatures during exercise tend to be a little higher</p> <p>8 on their medication versus not.</p> <p>9 That makes sense because if -- anything that's</p> <p>10 increasing your metabolic rate is going to probably</p> <p>11 generate more heat. So that's a possibility.</p> <p>12 Q. What about medications for hypertension? Can</p> <p>13 they --</p> <p>14 A. It could. I'd have to look into all the</p> <p>15 different classes and families. I'm not -- that's not</p> <p>16 my -- the pharmacological side of heat intolerance is</p> <p>17 not my expertise. But I certainly have looked into it.</p> <p>18 I'd have to look at the specific drug and then</p> <p>19 look at the literature and see, obviously, what's in</p> <p>20 those particular drugs.</p> <p>21 Q. All right. Any other long-term complications</p> <p>22 that Mr. Herrera's suffering that you believe are</p> <p>23 related to a heat stroke?</p> <p>24 A. Those are the ones that I was -- my attention was</p> <p>25 brought to.</p>	<p style="text-align: right;">Page 117</p> <p>1 exertional heat stroke, a cascade of medical problems</p> <p>2 can ensue after.</p> <p>3 So, I'll just give you an example. Some people</p> <p>4 have kidney problems, some have liver problems, some</p> <p>5 have muscular problems -- something called Rhabdo,</p> <p>6 R-h-a-b-d-o -- some people have cognitive issues, some</p> <p>7 people have exercise intolerance.</p> <p>8 So I'm often not surprised when a heat stroke</p> <p>9 person comes to me and they have, you know, a particular</p> <p>10 issue. A lot of people -- I'm dealing with a couple</p> <p>11 right now that just came to see us that have slurred</p> <p>12 speech still, like, 18 months after the heat stroke.</p> <p>13 We have noted, you know, decreases in IQs because</p> <p>14 we have, you know, testing beforehand and after.</p> <p>15 So I'm never surprised that, you know, other</p> <p>16 medical issues come into play after someone has a heat</p> <p>17 stroke; because when someone has a heat stroke, there's</p> <p>18 a massive insult to the body. You know, your body can</p> <p>19 only handle a very finite time of being extremely</p> <p>20 hyperthermic.</p> <p>21 So I'm always open-minded to the potential</p> <p>22 complications that heat stroke cause for a person.</p> <p>23 But when you're talking about MRI's, someone</p> <p>24 having a stroke, or other things like that; that's</p> <p>25 definitely outside of my wheelhouse.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 118</p> <p>1 Q. Okay. And so you're not rendering any opinions 2 whether this right lacunar infarct as revealed on MRI 3 imaging has any relationship whatsoever to this July 26, 4 2015, incident; true?</p> <p>5 A. I'm not saying yes or no either way. I don't 6 feel that that's in my area of expertise.</p> <p>7 Q. So if we sort of take a step back and then look 8 at what your opinions are in regards to whatever medical 9 conditions he suffered, you believe he suffered a heat 10 stroke for the reasons that we've discussed; correct?</p> <p>11 A. Yes.</p> <p>12 Q. And that he suffered long-term complications as a 13 result of that stroke, which you identified, which are 14 based on the fact he didn't report any of those 15 complications before July 26, 2015. But had those 16 complications reported after July 26 of 2015; is that 17 accurate?</p> <p>18 A. Yes.</p> <p>19 Q. All right. Doctor, going back to your report, is 20 there anything else -- if we just look at Consideration 21 No. 1 -- that forms any of your opinions for this 22 discussion identified in -- therein that we haven't 23 already covered?</p> <p>24 A. I think we did that very extensively just now.</p> <p>25 Q. Right. Consideration No. 2, it appears as though</p>	<p style="text-align: right;">Page 120</p> <p>1 A. Yes, yes.</p> <p>2 Q. All right. And --</p> <p>3 A. I just didn't see anything implemented for that 4 day.</p> <p>5 Q. Tell me what you mean.</p> <p>6 A. Like in terms of modifications to the work that 7 day; like more breaks, more formal breaks --</p> <p>8 Q. And --</p> <p>9 A. -- based on the environmental conditions.</p> <p>10 Q. So it's your understanding that there were not 11 increased breaks taken that day?</p> <p>12 A. Not like formal, like, that the bosses mandated 13 that the employees take particular breaks at particular 14 times.</p> <p>15 Q. And what in your opinion should have occurred on 16 this day, on July 26 of 2015, in regards to breaks?</p> <p>17 A. Well, it's not a simple answer. You'd have to 18 think about the work setting and the amount of -- the 19 intensity of the work that they're doing, also factoring 20 in the environmental conditions and if they're 21 acclimatized or not.</p> <p>22 But generally speaking, you'd want to have, like, 23 a formal break every hour; and in extreme conditions of, 24 like, 15 to 20 minutes.</p> <p>25 Q. All right.</p>
<p style="text-align: right;">Page 119</p> <p>1 these are more just general statements about things that 2 can address or that are important in regards to 3 heat-related illnesses; is that fair?</p> <p>4 A. Yes.</p> <p>5 Q. And that pretty much speaks for itself?</p> <p>6 A. Yes.</p> <p>7 Q. And No. 3, then what you're doing is you're then 8 applying those general issues in No. 2 to this 9 particular case; is that right?</p> <p>10 A. Yes.</p> <p>11 Q. All right. In regards to -- if we just -- I 12 don't want to take too much time -- but is there 13 anything in particular in regards to Consideration No. 3 14 that you consider important here that we haven't already 15 covered in your testimony thus far?</p> <p>16 A. No. I think I said it earlier. I think with 17 certain environmental conditions that the -- any work 18 settings -- I'm not saying just you guys -- any work 19 setting or athletic setting, whenever you're doing 20 physical labor; you should have a sliding scale where 21 more environmentally stressful there's modifications to 22 the work-to-rest ratio.</p> <p>23 Q. You're aware Union Pacific does have procedures 24 and protocols in regards to its work-to-rest ratio; 25 true?</p>	<p style="text-align: right;">Page 121</p> <p>1 A. And then, obviously, if it's, you know -- so 2 let's just say that's the most extreme. And then 3 something else would be, like, you know, eight minutes 4 every hour; and then something else is -- You know what 5 I mean?</p> <p>6 So we do this in many, many different settings. 7 So that the first group might be five to eight, you 8 know, or eight to ten minutes an hour. The next thing 9 might be 15 to 20 minutes an hour. The next thing might 10 be something more based on the more extreme 11 circumstances.</p> <p>12 The military has, you know, strict guidelines for 13 those.</p> <p>14 And so we have them -- even in high school 15 athletics we've established them.</p> <p>16 Q. And so your opinion is that Union Pacific was 17 required to have mandatory breaks every hour that would 18 increase up to 15 to 20 minutes per hour once you get to 19 the --</p> <p>20 A. Well, I'm not -- yeah.</p> <p>21 Q. -- extreme?</p> <p>22 A. I'm not requiring. I'm suggesting to UP just -- 23 the benefit of having something that's more formal is 24 that there are thousands of employees that work across 25 the country. They probably have a variety of experience</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 122</p> <p>1 with the heat.</p> <p>2 So you might have someone who is more of a rookie</p> <p>3 going out there and then not knowing exactly, like,</p> <p>4 should I do more breaks? Should I not? How long should</p> <p>5 they be?</p> <p>6 If you have some more formal guidelines, I think</p> <p>7 it evens the playing field for people.</p> <p>8 I also think it's extremely protective having</p> <p>9 formal rest breaks; because one, you almost guarantee</p> <p>10 people can hydrate. You have a chance for your body</p> <p>11 temperature to lower.</p> <p>12 But in addition to it lowering, if you didn't</p> <p>13 have the break, then the temperature would be going up</p> <p>14 because you'd be exercising still.</p> <p>15 The fatigue, you know, is a big issue. It</p> <p>16 dissipated a little bit. So anyway, it's just -- I</p> <p>17 mean, I know they won't get as much work done in that</p> <p>18 particular day. But if you can mitigate the medical</p> <p>19 issues and you keep more people, you know, in the game;</p> <p>20 is it worth it for the long haul?</p> <p>21 Q. So you recommend that Union Pacific have breaks</p> <p>22 every hour starting at five minutes; and then increase</p> <p>23 those when you get up to extreme heat conditions up to</p> <p>24 the point of 15 to 20 minutes per hour?</p> <p>25 A. The charts that are -- the recommendations that</p>	<p style="text-align: right;">Page 124</p> <p>1 they wanted?</p> <p>2 A. Yes.</p> <p>3 Q. And you and --</p> <p>4 A. I think they have that in place already.</p> <p>5 Q. Yeah. And you would agree that that's a good</p> <p>6 practice?</p> <p>7 A. Yes, yes.</p> <p>8 Q. All right. Anything else here, Doctor, in</p> <p>9 regards to Consideration 3 that we haven't talked about?</p> <p>10 A. I don't think so. I feel that we've done well</p> <p>11 there.</p> <p>12 Q. No. 4.</p> <p>13 A. So we discussed Point A already, because I</p> <p>14 mentioned to you that people who have heat stroke really</p> <p>15 aren't often in a situation to self-report their signs</p> <p>16 or symptoms.</p> <p>17 Q. Let me just also make sure I'm clear on that. So</p> <p>18 a heat stroke person may not be able to accurately</p> <p>19 assess their condition; but nevertheless, it is</p> <p>20 important and a good idea to actually talk with that</p> <p>21 individual and ask them how they're doing; true?</p> <p>22 A. Absolutely, yes.</p> <p>23 Q. All right. You're just -- it's your</p> <p>24 understanding or opinion that it may not always be</p> <p>25 accurate? It will be accurate in some situations; but</p>
<p style="text-align: right;">Page 123</p> <p>1 are out there that I'd recommend, they factor in three</p> <p>2 things. It's the intensity of the activity, the</p> <p>3 environmental conditions, and the heat acclimatization</p> <p>4 status of the individual.</p> <p>5 So if you have a person who's gone ten straight</p> <p>6 days in high heat humidity conditions, they're going to</p> <p>7 be better able to handle it than someone who is on</p> <p>8 Day 1.</p> <p>9 If you have high intensity, but low heat; yeah,</p> <p>10 they probably, you know, can handle things with much</p> <p>11 less rest breaks.</p> <p>12 But if you're doing high intensity, high heat,</p> <p>13 and they're not fully heat acclimatized yet; obviously,</p> <p>14 those would be the most conservative situations.</p> <p>15 So they have paradigms like this; 0the military</p> <p>16 has them and athletics. And so that would be my</p> <p>17 recommendation.</p> <p>18 Q. Sure. And that would be a good practice -- it's</p> <p>19 your recommendation that it would be a good practice for</p> <p>20 Union Pacific to have, again, established protocols for</p> <p>21 breaks every hour --</p> <p>22 A. Yeah.</p> <p>23 Q. -- say, five minutes; increase those up to 15,</p> <p>24 20 minutes every hour as this is getting extreme; and</p> <p>25 even allowing individuals to take more breaks whenever</p>	<p style="text-align: right;">Page 125</p> <p>1 other situations it may not?</p> <p>2 A. Right. That's correct.</p> <p>3 Q. Okay. Anything else?</p> <p>4 A. (Pause.) I think there was somewhere in your</p> <p>5 materials -- I have to -- it say Page 29 -- dry, hot</p> <p>6 skin with no sweating. And there was a couple</p> <p>7 depositions.</p> <p>8 This is just a word of advice for your company.</p> <p>9 I would get that stuff out of the materials.</p> <p>10 All heat strokes are still sweating at the time</p> <p>11 of the incident. If they have dry skin is something</p> <p>12 that came from the classic heat stroke literature, which</p> <p>13 is a different kind of heat stroke.</p> <p>14 I'm going to personally permeate it into the</p> <p>15 medical literature a little bit; but it has nothing to</p> <p>16 do with exertional heat stroke.</p> <p>17 So unfortunately -- and this happens not just in</p> <p>18 your setting, but a lot of people -- in fact, we've been</p> <p>19 working with OSHA to get it off of government websites,</p> <p>20 because people sometimes look for dry skin as an</p> <p>21 indication of heat stroke. And so when they see someone</p> <p>22 copiously sweating, they're assuming it's not a heat</p> <p>23 stroke.</p> <p>24 Just as an example, of the 225 heat strokes I've</p> <p>25 dealt with, they all were sweating at the time that I</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 126</p> <p>1 was caring for them.</p> <p>2 So we're trying hard to get that out of some of</p> <p>3 the recommendations that are out there.</p> <p>4 Q. So this recommendation about having dry, hot skin</p> <p>5 with heat stroke; that's even still being expressed by</p> <p>6 OSHA and the Federal Government?</p> <p>7 A. Up till today I can't tell you for sure. About</p> <p>8 six or nine months ago we were able to get some stuff</p> <p>9 removed.</p> <p>10 But yes, it is out there right now. So we need</p> <p>11 to get -- like, so, I don't fault your supervisor.</p> <p>12 A couple people in the depositions noted that</p> <p>13 they were looking for dry skin. So I don't fault them</p> <p>14 that that's what is there. I'm just saying in the</p> <p>15 future we want to make sure that's not accurate.</p> <p>16 In the athletic/military literature that was --</p> <p>17 we're 15 to 20 years removed from that being included.</p> <p>18 Q. Can you have a heat stroke -- exertional heat</p> <p>19 stroke victim have dry, hot skin?</p> <p>20 A. You could, yes.</p> <p>21 Q. And you're saying that that's not always the</p> <p>22 case --</p> <p>23 A. It's just not likely -- well, it's mostly not the</p> <p>24 case.</p> <p>25 Q. Okay.</p>	<p style="text-align: right;">Page 128</p> <p>1 whole body immersion utilized to immediately cool the</p> <p>2 patient; correct?</p> <p>3 A. I said if appropriate medical staff is on site.</p> <p>4 Q. Oh, if they are?</p> <p>5 A. Yeah.</p> <p>6 Q. So if appropriate medical staff are not on site,</p> <p>7 then --</p> <p>8 A. I don't recommend cold water immersion being set</p> <p>9 up, you know, by nonmedical people.</p> <p>10 Q. And you --</p> <p>11 A. I would use other -- I would recommend -- just as</p> <p>12 an FYI, I do think one thing you guys should consider</p> <p>13 moving forward for cooling stations is having a cooler</p> <p>14 filled with ice water and towels. It's much better than</p> <p>15 just cooling --</p> <p>16 You know the little packs that people use?</p> <p>17 They're highly inefficient. They do not give you good</p> <p>18 cooling rates. So as an example, you'll hear -- like, I</p> <p>19 think one of the things your company recommends is like</p> <p>20 having cold packs on the peripheral arteries. So that</p> <p>21 would be like neck, groin, armpits. That cooling rate</p> <p>22 might only be like .05 or .06 degrees Celsius per</p> <p>23 minute.</p> <p>24 Whereas if you have a cooler filled with ice</p> <p>25 water and towels and put freezing, cold, wet towels all</p>
<p style="text-align: right;">Page 127</p> <p>1 A. 100 percent of the time it's not happened for me.</p> <p>2 But I think there's probably times you would possibly</p> <p>3 see that.</p> <p>4 And I think some of the circumstances would be</p> <p>5 someone had a heat stroke and then you don't find them</p> <p>6 for 30 minutes; right. So like some runner out in the</p> <p>7 woods or a mountain biker or a worker in a remote</p> <p>8 setting and they're -- you know, they haven't exercised</p> <p>9 for the previous 30 minutes. They're dry when you get</p> <p>10 to them. But they still had a heat stroke 30 minutes</p> <p>11 before.</p> <p>12 So I think it certainly could happen. I just</p> <p>13 don't want to make that the end-all-be-all that you're</p> <p>14 doing assessment based on. So that's just something to</p> <p>15 relay back.</p> <p>16 Q. Okay. Anything else in regards to Consideration</p> <p>17 4?</p> <p>18 A. Let me just look at this last part, here.</p> <p>19 (Off the record.)</p> <p>20 BY MR. SCHMITT:</p> <p>21 Q. In fact, let me ask you in regards to the</p> <p>22 section where we're talking about dry, hot skin --</p> <p>23 A. Yes.</p> <p>24 Q. -- you also indicated that if appropriate medical</p> <p>25 staff aren't on site, you would recommend having a cold</p>	<p style="text-align: right;">Page 129</p> <p>1 over their body; it could be .12 or .13; which would be</p> <p>2 twice as effective and still super cheap; because you</p> <p>3 just need any kind of just Gatorade cooler with ice</p> <p>4 water and towels.</p> <p>5 And if you get a good cooler, the ice can stay</p> <p>6 for the whole day. So it would be just filling it up in</p> <p>7 the morning.</p> <p>8 So that's just something to consider.</p> <p>9 I'm not holding anyone accountable in a situation</p> <p>10 to have a cold immersion tub set up, because that's a</p> <p>11 very intense process.</p> <p>12 Q. All right.</p> <p>13 A. Yeah. And I would want medical professionals</p> <p>14 involved with that.</p> <p>15 Q. All right, fair enough. And so you're not</p> <p>16 expressing an opinion that Union Pacific have had a cold</p> <p>17 water immersion on site in this case?</p> <p>18 A. No. I just -- I gave you the recommendation just</p> <p>19 now of what I feel would be optimal and very</p> <p>20 cost-effective and very convenient.</p> <p>21 Q. All right. Anything else in regards to your</p> <p>22 opinions in Consideration No. 4 that we have not --</p> <p>23 A. Just on Page 5, I do recommend that you guys</p> <p>24 consider checking the environmental conditions through</p> <p>25 the day at the work setting. I don't know if that's</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

Page 130	Page 132
<p>1 done consistently right now. It is a few things to</p> <p>2 consider.</p> <p>3 Obviously, you have the morning briefing, which</p> <p>4 is great. You're educating people; you're making them</p> <p>5 aware.</p> <p>6 But obviously, the conditions during the day</p> <p>7 might be even different than what you report in the</p> <p>8 morning. It could be worse than you thought it was</p> <p>9 going to be.</p> <p>10 And the microenvironment that they're working in</p> <p>11 can be more extreme than what that foreman is getting</p> <p>12 from a weather report; right. So he's getting his</p> <p>13 weather station report from five miles away. But then</p> <p>14 you go out to the track -- hugely sunny day, no shade,</p> <p>15 you're on this hot track, you have hot equipment around</p> <p>16 you -- your microenvironment might be ten degrees hotter</p> <p>17 than the weather station report is giving you at that</p> <p>18 same time.</p> <p>19 So we highly encourage war fighters in basic</p> <p>20 training, laborers, athletes to always do measurements</p> <p>21 on site because your environment could be different.</p> <p>22 So a good example is in athletics, turf fields,</p> <p>23 sometimes they're quite warmer than grass.</p> <p>24 And you want to have your recommendation from</p> <p>25 what you're dealing with right then. So that's all from</p>	<p>1 as a gold standard. So there's plenty of evidence to</p> <p>2 indicate that it's a better way to go.</p> <p>3 Q. So it's a recommendation by you?</p> <p>4 A. Yes.</p> <p>5 Q. But you're certainly not saying that Union</p> <p>6 Pacific violated --</p> <p>7 A. No.</p> <p>8 Q. -- industry standard by not having WBGT on site;</p> <p>9 true?</p> <p>10 A. No. That I agree with. So my recommendation</p> <p>11 even today would be to still be tracking temperature or</p> <p>12 heat index on site for the stressors they're dealing</p> <p>13 with.</p> <p>14 Q. All right.</p> <p>15 A. So I think we're -- that one's good.</p> <p>16 I believe his medical attention was delayed.</p> <p>17 That's in Point C there on Page 5. I had mentioned that</p> <p>18 to you before.</p> <p>19 Q. Yes, let me ask you about this. So you're citing</p> <p>20 the Federal Railroad Safety Act 49 U.S.C. 20109. And</p> <p>21 you're citing some language as contained in that</p> <p>22 statute; right?</p> <p>23 A. Yes.</p> <p>24 Q. But in regards to your note or your opinion that</p> <p>25 Guillermo's treatment was delayed, what's the basis for</p>
Page 131	Page 133
<p>1 there.</p> <p>2 Q. Is use of an anemometer, is that a good practice?</p> <p>3 A. It is if it's on site, like at their work</p> <p>4 setting. Because like if you go back to wherever --</p> <p>5 Onaga, wherever their station was, it could be 40 miles</p> <p>6 away; and it's not the same microenvironment of being</p> <p>7 with that metal and steel and the tracks. You know,</p> <p>8 it's a very unique work environment.</p> <p>9 And there's something called WBGT. It's an</p> <p>10 acronym for WetBulb Globe Temperature. And that's</p> <p>11 really the gold standard for assessing environmental</p> <p>12 conditions on site because it factors in humidity,</p> <p>13 temperature, and the effect of the sun or the globe</p> <p>14 temperature.</p> <p>15 So the anemometer wouldn't get that.</p> <p>16 Q. Well, would WBGT maybe used in certain settings</p> <p>17 like military, possibly?</p> <p>18 A. Yeah. We use -- WBGT is the gold standard in</p> <p>19 athletics and in military and more commonly being used</p> <p>20 in laborer settings now.</p> <p>21 Q. You agree with me, though, that WBGT is not used</p> <p>22 as the standard in the industry?</p> <p>23 A. Oh, no, I would agree. I say we're trying to</p> <p>24 move people towards it.</p> <p>25 We've been using in the military since 1989, '90</p>	<p>1 that opinion?</p> <p>2 A. Oh, the fact that his -- well, there's a few</p> <p>3 items. But I think the big one is at 1:30 someone</p> <p>4 calls -- clearly he's in distress. They call a</p> <p>5 supervisor. They get a car there. And it's three hours</p> <p>6 approximately before he actually is -- receives medical</p> <p>7 attention.</p> <p>8 Q. So am I correct, though -- because it's your</p> <p>9 opinion, as I believe you've expressed earlier, that you</p> <p>10 believe given the condition that Mr. Herrera was at the</p> <p>11 time that you believe at 1:30, that he should have been</p> <p>12 taken for medical attention at that time; correct?</p> <p>13 A. I mean, I personally -- remember I said earlier I</p> <p>14 would have liked it to have happened even earlier.</p> <p>15 Remember the second time when he called out?</p> <p>16 Q. Understood.</p> <p>17 A. Yes. So I'd say at minimum I feel like his</p> <p>18 medical attention was delayed three hours.</p> <p>19 Q. And so here's my question: So you believe</p> <p>20 medical attention was delayed. It should have occurred</p> <p>21 sooner.</p> <p>22 Aren't you expressing that opinion regardless of</p> <p>23 whether or not there's a citation to 49 U.S.C. Section</p> <p>24 20109?</p> <p>25 A. Oh, yeah, I would agree with that. I just</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 134</p> <p>1 believe his medical care was delayed. This is just 2 something that is consistent with my belief. 3 Q. I mean, anyone else -- a juror, for example, can 4 read the language of 49 U.S.C. Section 20109 and make 5 his or her own assessment whether or not that statute 6 was complied with or violated; true? 7 A. Yes. Yeah. This is just my opinion. 8 Q. All right. So you're not rendering a legal 9 opinion whether or not you believe that this statute was 10 violated; true? 11 A. Yeah. I don't think I have that jurisdiction. 12 This is just my opinion. 13 Q. You're simply saying that you believe the medical 14 treatment that day was delayed. It should have been 15 given sooner than what it was; true? 16 A. Yes, yes. 17 Q. All right. What about Section D -- Item D, 18 the -- 19 A. I don't -- 20 Q. -- GCOR? 21 A. So same exact thing. It says: Everything 22 reasonable to care for them. And I don't think 23 everything reasonable was done. 24 Q. So the application of that rule; again, a 25 layperson, a juror can make his or her own analysis of</p>	<p style="text-align: right;">Page 136</p> <p>1 not be able to self-asses? 2 Q. All right. 3 A. That was another one. 4 And then I feel like I just would highly 5 recommend some kind -- of a little more advanced maybe 6 online heat illness hydration education, a little more 7 advanced education. 8 Could we take it to another level that -- you 9 know, could we require any of your supervisor level or 10 above have, like, an hour heat safety, you know, 11 training course. 12 I have a lot of experience in that area. So 13 we've developed courses like that. 14 And we work with coaches, for instance. And it's 15 a very similar kind of circumstance. The coach is 16 responsible for the athlete. That foreman is 17 responsible for that guy working. 18 So I feel like the knowledge is here; and we need 19 to take it up a level. 20 Q. So with this additional training -- an hour 21 course or so with managers, supervisors -- what 22 information should be provided to them in your opinion? 23 A. So more specific details on recognizing heat 24 stroke; details related to modifications that can be 25 made, strategies; details related to assessing</p>
<p style="text-align: right;">Page 135</p> <p>1 whether or not that rule was complied with or violated; 2 true? 3 A. Yes. 4 Q. All right. The same with Item E, you're citing 5 Maintenance-of-Way rules? 6 A. Yes. 7 Q. All right. Same discussion that we just had with 8 the others? 9 A. Yes. 10 Q. All right. Anything else in Item 4 -- 11 Consideration 4? 12 A. No. 13 Q. Okay. Consideration 5, is there anything here, 14 Doctor, that we have not already covered? 15 A. No. One is the medical care being delayed. 16 We already covered the work-to-rest ratio that I 17 just said in No. 2. 18 I do feel like more education could be done for 19 the supervisors and employees, which I noted a little 20 bit earlier. 21 Q. And that "more education" meaning this dry skin 22 issue? 23 A. Well, that was one. 24 Remember, I told you that Diaz wasn't aware that 25 a heat stroke person might have mental compromise and</p>	<p style="text-align: right;">Page 137</p> <p>1 environmental conditions on site; and then -- I just 2 thought of one other. (Pause.) 3 Oh, differentiating between the different heat 4 illnesses and, like, being aware of when to get 5 immediate medical care. 6 But the other one that I just mentioned to you 7 before is implementing a more aggressive on-site cooling 8 strategy like I suggested with the coolers. 9 Q. There is a training program that's utilized you 10 cited in your report -- 11 A. Yeah. 12 Q. -- the Quality Safety Meeting Process Heat Stress 13 Prevention -- 14 A. Yes. 15 Q. -- QS-97. 16 A. Yes. 17 Q. So there is specific training? 18 A. No, see, I'm not -- just so you know, I 19 totally -- I know that exists. I just think we can do 20 better -- a little better than what you have right now. 21 And I'm not saying you; I think a lot of laborer 22 settings now could do a little better from what we have 23 right now. I think there's just some more current 24 information and better data now to support better 25 education programs.</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 138</p> <p>1 Q. So you believe it's a good practice that Union 2 Pacific has this type of a program, the QS-97, in place? 3 A. Yes. 4 Q. You believe, though, that some additional could 5 be done; the things that you've already identified here 6 in this deposition? 7 A. Yes. 8 Q. Okay. Anything else? 9 A. (Pause.) So I've already talked about long-term 10 complications. 11 So everything else is covered. 12 Q. So, yes, Consideration 6, Lasting Complications. 13 A. See, that's the only one that's kind of -- since 14 I wrote this report in August, which is almost exactly 15 12 months from the incident date -- and now we're, 16 whatever, nine months from that; that's the only thing 17 that is now I'm -- you know, I'm feeling less assured 18 that he's going to be able to recover. 19 I was more hopeful when I wrote this. 20 Q. Because now more time has passed? 21 A. Yes. 22 Q. And so what is it now -- how much time passes 23 typically, I guess, to get to the point that you believe 24 that a person's not going to recover; in other words, 25 that it's going to be a permanent issue?</p>	<p style="text-align: right;">Page 140</p> <p>1 fitness-wise and then slowly integrate a little more 2 heat exposure? 3 Because that's -- whenever we work with anybody, 4 you want to get fit first before you have the heat 5 exposure. You don't want to do both at the same time. 6 It's too much stress after someone's had a problem. 7 So if we can get to that point -- My long-term 8 hope at this point now is, you know, could he have a job 9 somewhere in an air-conditioned environment and function 10 for the remainder of his life; but then also still be 11 able to exist in hot conditions; meaning he can walk his 12 dog; he can play with his kids outside; he can mow the 13 yard? 14 Those things, I think, hopefully could be 15 accomplished. 16 Q. Is that -- 17 A. That's my hope. I don't feel like he's going to 18 -- I don't have a good feeling that he could go back to 19 like -- I don't think he could be a solidier right now. 20 I don't think he could go back to the same job he had 21 before. I don't feel good about that right now. 22 Q. But -- in regards to your hope, but do you 23 believe more likely than not that Mr. Herrera will be 24 able to be fully gainfully employed in, for example, a 25 setting where he's in an air-conditioned environment?</p>
<p style="text-align: right;">Page 139</p> <p>1 A. Good question. Once they get to around 18 months 2 to two-year mark, I start to have my doubts that the 3 person's going to recover back to full normal function. 4 Like, I don't have much hopes now that he could 5 return to, like, a job that would require intense labor 6 in the heat. I'm hopeful, but I'm not... I don't feel 7 good about it. 8 Q. Because we're not quite two years yet? 9 A. No, we're about -- 10 Q. Twenty-two months? 11 A. Yeah. 12 Q. So he may continue to have some improvement. But 13 it's getting to the point that you believe it's 14 unlikely? 15 A. Yes. I would agree with that. 16 Q. All right. You mentioned that -- or made a 17 comment that he won't -- you don't believe he'll be able 18 to return to an intense labor job in the high heat. 19 Are you rendering any opinions about what type of 20 work Mr. Herrera can do? 21 A. Well, I mean, I -- so like I mentioned to you 22 before, I deal with a lot of people in their recovery 23 process. 24 I do think we hopefully -- could we possibly help 25 him -- could he possibly get in better shape</p>	<p style="text-align: right;">Page 141</p> <p>1 A. I still am hopeful of that. 2 MR. COX: Form and foundation. 3 BY MR. SCHMITT: 4 Q. And given -- I mean, you've reviewed a lot of 5 documents, a lot of medical records, depositions, all of 6 that. 7 And while you're hopeful, do you believe that 8 more likely than not -- 51 percent or more -- that 9 Mr. Herrera will achieve that; be able to work full-time 10 gainful employment? 11 MR. COX: Form and foundation. 12 THE WITNESS: That's a good question. 13 (Pause.) 14 I honestly don't have -- it's too hard to 15 tell at this point. I think there's a 16 possibility that he could have a -- if it's the 17 right job in a climate-controlled facility that 18 doesn't require a lot of physical labor, I am 19 hopeful that that is a job he could have in his 20 future. But I couldn't tell you right now 21 percentages. 22 BY MR. SCHMITT: 23 Q. Anything else, Doctor, in regards to Item -- I 24 guess 6, Lasting Complications is what we were just 25 discussing?</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

Page 142	Page 144
<p>1 A. No. I think we've thoroughly gone through all 2 those items.</p> <p>3 Q. Yes. And then Item 7 is really a summary. Is 4 there anything else here that --</p> <p>5 A. No. I feel like we were very concise. 6 I wish I did more depositions with you compared 7 to a lot of lawyers that this takes nine hours for 8 instead of three.</p> <p>9 Do you know that in this exact room -- not to go 10 off topic -- but in this exact room I did a 14-hour depo 11 once. We ended at midnight. I swear. It was the Ereck 12 Plancher case.</p> <p>13 Q. Are you rendering any opinions about the 14 relationship of Mr. Herrera's other medical 15 conditions -- high blood pressure, prediabetes, 16 hyperlipidemia, high cholesterol -- all of these other 17 problems that he has to any of the issues in this case 18 or problems that he's currently experiencing?</p> <p>19 A. Do you mind asking that again? I felt like there 20 was a lot in there. Do you mind just splicing that just 21 a tiny bit?</p> <p>22 Q. Sure.</p> <p>23 A. Okay.</p> <p>24 Q. I'm trying to figure out the extent of your 25 opinions -- and I think I understand. But the medical</p>	<p>1 And Dave just mentioned that my deposition was in 2 the winter of '14.</p> <p>3 MR. COX: Dave, what's the next exhibit 4 number?</p> <p>5 (Off the record.)</p> <p>6 MR. COX: For the record, we're going to 7 mark as Exhibit 169 Dr. Casa's report to me 8 dated November 30, 2013, regarding Jared Whitt. 9 (Plaintiff's Exhibit 169, Dr. Casa's 10 November 30, 2013, report marked for 11 identification.)</p> <p>12 BY MR. COX:</p> <p>13 Q. Dr. Casa, when one is in heat distress -- whether 14 it's heat exhaustion or heat stroke -- is he or she in a 15 position to be aware of his or her own body and its 16 limits and conditions?</p> <p>17 A. With heat stroke there's a definite possibility 18 they would not be.</p> <p>19 With heat exhaustion I would say they probably 20 have better wits about themselves because of less CNS 21 dysfunction.</p> <p>22 But the answer to your question overall is 23 generally, if you're not sure, you don't want to rely on 24 their own self-assessment to make decisions.</p> <p>25 Q. And can you give us examples of what CNS --</p>
Page 143	Page 145
<p>1 records do demonstrate Mr. Herrera has some other 2 medical problems. And I'm trying to find out whether or 3 not you're expressing any opinions on any of those other 4 medical issues or if you're simply going to defer to 5 other providers, experts in those areas?</p> <p>6 A. So consistent with what I said before, I'm not an 7 expert in those areas and I don't have an opinion on 8 those.</p> <p>9 Q. All right.</p> <p>10 Doctor, do you have any other opinions or bases 11 for your opinions that we have not already discussed 12 here in this case?</p> <p>13 A. No. I feel like I've had the opportunity to 14 share all the key items I wanted to talk about.</p> <p>15 Q. Okay. I have nothing further.</p> <p>16 THE WITNESS: Jim, do you have anything? 17 ---</p> <p>18 EXAMINATION BY MR. COX:</p> <p>19 Q. I have a couple of things.</p> <p>20 Dr. Casa, we talked a little bit about the Jared 21 Whitt case. In that case did you prepare a report that 22 you provided to me and that was shared with the Union 23 Pacific Railroad?</p> <p>24 A. Yes. I believe in fall of 2013 I submitted the 25 report to you.</p>	<p>1 central nervous system -- dysfunction Guillermo Herrera 2 was demonstrating on the job site and at the hospital?</p> <p>3 A. Sure, yeah. Confusion, oriented to place or 4 purpose; those would be the ones I think of most 5 commonly right now.</p> <p>6 Q. How about blurred vision?</p> <p>7 A. Yeah. I mean, lethargic and blurred vision you 8 also could consider there, yes.</p> <p>9 Q. Hang on one second. (Pause.) 10 (Off the record.)</p> <p>11 BY MR. COX:</p> <p>12 Q. Dr. Casa, we've seen in your articles and the 13 articles by other doctors in the case a condition that 14 occurs in heat stroke called diffuse intravascular 15 coagulation.</p> <p>16 What is diffuse intravascular coagulation?</p> <p>17 A. Are you talking about DIC?</p> <p>18 Q. Yes, sir.</p> <p>19 A. Disseminated intravascular coagulation, yes.</p> <p>20 Q. I'm sorry. It is disseminated. I said diffuse. 21 It's disseminated intravascular coagulation.</p> <p>22 A. Yes. DIC is a complication with heat stroke 23 where you have issues related to blood flow in the body.</p> <p>24 And it's generally a very bad indication that a 25 heat stroke is not going well, not recovering well, and</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

<p style="text-align: right;">Page 146</p> <p>1 that the outcome and prognosis might not be good.</p> <p>2 And it's one of the reasons you see organ failure</p> <p>3 because there's issues related to oxygenated blood being</p> <p>4 sent to the organs so that they can function properly.</p> <p>5 Q. Dr. Casa, based on your experience and the people</p> <p>6 that you've worked with who suffered an exertional heat</p> <p>7 stroke and the follow-up work that you've done at the</p> <p>8 Korey Stringer Institute, what is the consequence in</p> <p>9 Guillermo Herrera of the three-hour delay in obtaining</p> <p>10 medical care on July 26, 2015?</p> <p>11 MR. SCHMITT: Form, foundation.</p> <p>12 THE WITNESS: I believe if his amount of</p> <p>13 time that he was hyperthermic was minimized,</p> <p>14 that he would not have had the lasting</p> <p>15 complications that have caused the current</p> <p>16 lawsuit we're dealing with.</p> <p>17 BY MR. COX:</p> <p>18 Q. And what are those complications, again?</p> <p>19 MR. SCHMITT: Same objections.</p> <p>20 THE WITNESS: As mentioned earlier, things</p> <p>21 like exercise heat intolerance;</p> <p>22 light-headedness; dizziness; you know,</p> <p>23 difficulty with some basic life functions</p> <p>24 because of that.</p> <p>25 MR. COX: Dr. Casa, that's all the questions</p>	<p style="text-align: right;">Page 148</p> <p>1 that that, in fact, occurred with Mr. Herrera; true?</p> <p>2 A. Yeah, with DIC I said I'd have to examine that</p> <p>3 further to look for that specifically.</p> <p>4 But I didn't see the organ failure that you</p> <p>5 normally see.</p> <p>6 Q. Okay. What do you need to look at to examine the</p> <p>7 DIC further?</p> <p>8 A. Oh, I would just want to look back at the</p> <p>9 hospital records.</p> <p>10 Q. From that initial admission at Onaga?</p> <p>11 A. Yeah.</p> <p>12 Q. Let me just hand you that medical record from</p> <p>13 Onaga from July 26 of 2015.</p> <p>14 A. (Pause.) I don't see any evidence of it right</p> <p>15 now. I'd have to -- I mean, there's -- I don't have any</p> <p>16 indications right now of it, and I didn't prior either.</p> <p>17 But I'd have to -- like I said, maybe I haven't</p> <p>18 looked at everything.</p> <p>19 Q. Sure. And I can represent to you these were</p> <p>20 marked Bates stamped UP Herrera 39 through UP Herrera</p> <p>21 52 -- which Mr. Cox and I both have -- which is the</p> <p>22 entire medical record from his admission at Onaga.</p> <p>23 There's nothing -- You've just reviewed it.</p> <p>24 There's nothing in this record that you've just reviewed</p> <p>25 to support the diagnosis that Mr. Herrera, in fact,</p>
<p style="text-align: right;">Page 147</p> <p>1 I have.</p> <p>2 Thank you, sir.</p> <p>3 A. Thank you.</p> <p>4 ---</p> <p>5 FURTHER EXAMINATION BY MR. SCHMITT:</p> <p>6 Q. Doctor, just a couple of follow-ups and then</p> <p>7 we're done.</p> <p>8 In regards to the CNS issues, you mentioned</p> <p>9 lethargic, blurred vision. You said they could be</p> <p>10 related to a heat stroke.</p> <p>11 They can also be due to many other medical</p> <p>12 issues; true?</p> <p>13 A. Yes.</p> <p>14 Q. All right. DIC, you indicated that it can result</p> <p>15 in significant blood flow problems and leading to organ</p> <p>16 failure.</p> <p>17 You're not testifying Mr. Herrera had any organ</p> <p>18 failure, are you?</p> <p>19 A. No.</p> <p>20 Q. Or that he suffered from DIC?</p> <p>21 A. That I would have to examine more closely.</p> <p>22 But I didn't see that -- the organ failure that</p> <p>23 you typically would see -- that you often see after a</p> <p>24 heat stroke.</p> <p>25 Q. All right. So you're not expressing any opinions</p>	<p style="text-align: right;">Page 149</p> <p>1 suffered disseminated intravascular coagulation; true?</p> <p>2 A. Yeah, based on my cursory look, I agree with that</p> <p>3 statement.</p> <p>4 Q. All right. And then in regards to the amount of</p> <p>5 time -- the last question Mr. Cox asked you -- So let me</p> <p>6 start over.</p> <p>7 In regards to the amount of time that Mr. Herrera</p> <p>8 suffered hyperthermia, you believe that -- I'll strike</p> <p>9 that and start over.</p> <p>10 (Off the record.)</p> <p>11 BY MR. SCHMITT:</p> <p>12 Q. You rendered an opinion about the amount of time</p> <p>13 that Mr. Herrera was suffering this issue and that that,</p> <p>14 in turn, led to his complications.</p> <p>15 My question is: How much time -- if that time</p> <p>16 had been reduced -- in other words, at what point in</p> <p>17 time do you believe that Mr. Herrera would have suffered</p> <p>18 no complications had he sought medical treatment at that</p> <p>19 point?</p> <p>20 A. Well, we went through the timelines earlier. So,</p> <p>21 obviously, there's no -- there's not a set moment that</p> <p>22 we have no complications. We just enhance our odds of a</p> <p>23 full recovery if we minimize the amount of time we're</p> <p>24 hyperthermic.</p> <p>25 So if at that 1:30 moment when they called for</p>

GUILLERMO HERRERA, III VS. UNION PACIFIC RAILROAD COMPANY

05/25/2017

Douglas Casa, Ph.D.

Page 150	Page 152
1 his supervisor -- called and a car came; if they went	1 CORRECTION SHEET
2 straight to the hospital right then, I have a good	2 Please note any error(s) and/or corrections thereof on
3 amount of confidence that he would have been able to	3 this sheet. The rules require a reason for any change
4 make a full recovery.	4 or correction. It may be general; such as, "to correct
5 Q. What if Mr. Herrera had arrived at the hospital	5 stenographic error," or "to clarify the record," or "to
6 within one hour of having suffered those issues where	6 conform with the facts.
7 he's then taken from the job site? If one hour of time	7 RE: No. 8:15-cv-426-JMG-CRZ, GUILLERMO HERRERA, III,
8 had passed instead of three hours, do you believe that	8 vs. UNION PACIFIC RAILROAD COMPANY; Deposition of
9 he would have suffered any long-term complications?	9 DOUGLAS CASA, Ph.D., taken May 25, 2017:
10 A. Let me say, I think he would have had long-term	10
11 complications; but I don't think they would have been	11
12 permanent complications.	12
13 So right now we're on the brink of them becoming	13
14 permanent.	14
15 Q. All right.	15
16 Okay, that's all I have.	16
17 MR. COX: Dr. Casa, thanks very much.	17
18 THE WITNESS: Thank you, Jim.	18
19 Thank you, Dave.	19
20 MR. SCHMITT: You bet.	20
21 (The deposition concluded at 11:35 a.m.)	21
22 ---	22
23	23
24	24
25	25
Page 151	Page 153
1 CERTIFICATE OF DEPONENT	1 CERTIFICATE OF REPORTER
2	2 I, Victoria L. Germani, RPR, LSR, and Notary
3 I, DOUGLAS CASA, Ph.D., do hereby certify the	3 Public duly commissioned and qualified within and for
4 foregoing testimony given by me on May 25, 2017, is true	4 the State of Connecticut; do hereby certify that
5 and accurate to the best of my ability.	5 pursuant to Notice there appeared before me on
6	6 May 25, 2017, at 9:33 a.m., the following named person,
7	7 to wit: DOUGLAS CASA, Ph.D., who was by me duly sworn to
8 DATE DOUGLAS CASA, Ph.D.	8 testify to the truth and nothing but the truth; that
9	9 he/she was thereupon carefully examined upon his/her
10	10 oath; and his/her examination reduced to writing under
11 At _____ in said county of	11 my supervision; and that the deposition is a true record
12 _____, this _____ day of	12 of the testimony given taken to the best of my ability.
13 _____, 2017, personally appeared DOUGLAS	13 I further certify that I am neither attorney nor
14 CASA, Ph.D., and he/she made oath to the truth of the	14 counsel for, nor related to nor employed by any of the
15 foregoing answers by him/her subscribed.	15 parties to the action in which this deposition is taken;
16	16 and further that I am not a relative or employee of any
17	17 attorney or counsel employed by the parties hereto, or
18	18 financially interested in the action.
19 Before me, _____, Notary	19 IN WITNESS THEREOF, I have hereunto set my hand
20 Public.	20 this 12th day of June, 2017.
21	21 <i>Victoria L. Germani</i>
22	22
23 My commission expires:	23 Victoria L. Germani, Notary Public
24	24 LSR NO. 051
25	25 My Commission expires April 30, 2020